

AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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NO. X.

A. B. ALLEN, Editor.

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TO POSTMASTERS.

MANY of the Postmasters throughout the Union do not seem to know that letters on *Post-office business* go free. It is only necessary to mail the letter unsealed, and write outside upon it "P. O. Business," with the name of the Postmaster, and where mailed. For example, if a paper has a wrong direction, or it be refused, or anything of the kind takes place, by following the above directions, we can be informed of the facts without taxing us with postage. Postmasters ought, in all cases, to make themselves acquainted with their privileges. We trust that those unacquainted with the law will excuse this paragraph, as we have frequently had to pay postage on their letters, when they could have gone free.

TO PRESERVE GRAPES.

TAKE a well-bound cask, from which the head is to be removed, and place at the bottom a good layer of fine saw-dust or bran. On this place a layer of grapes, then bran and grapes alternately, until the cask is full, taking care that there is sufficient bran between each layer of grapes to prevent their touching each other. Put on the head, which is to be cemented, and the grapes will keep well for a year. When used, in order to restore their freshness, cut the stalk of each bunch, and place it in wine, as flowers are placed in water.

CATTLE SHOW AND FAIR OF THE AMERICAN INSTITUTE.

Programme of the General Arrangements.—Specimens of all kinds of fabrics of Art, Machines, Models, Inventions, &c., intended for competition, must be delivered, and entered on the books of the Fair, at Castle Garden, October 1st, 2d, or 3d, viz.,

Thursday, Friday, or Saturday. The chance for a favorable location will be increased by an early delivery, which should not be later than Friday or Saturday afternoon.

First Week of the Exhibition.—Monday, Oct. 5th.—The Fair will open to the public at 12 o'clock, M. Vegetables, Fruits, Flowers, &c., for the Horticultural Room, should be brought early this morning. Fresh supplies of Flowers are desired every day. At 7½ o'clock, P. M., the OPENING ADDRESS will be delivered by the Hon. Mahlon Dickerson, of New Jersey, President of the Institute. After which there will be a grand display of Fireworks.

Tuesday, Oct. 6th.—The Horticultural Exhibition opens this morning at 9 o'clock. An Address by a member of the Institute, at 12 o'clock, M.

Wednesday, Oct. 7th.—The Steam Engine, with the long range of Machinery, will be in operation this day. At 9 o'clock, P. M., a display of Fireworks.

Thursday, Oct. 8th.—At 3 o'clock, P. M., an Address.

Friday, Oct. 9th.—Plowing and Spading Matches. An Address in the field.

Saturday, Oct. 10th.—The evening will close with a splendid display of Fireworks.

Monday, Oct. 12th.—Entries of Cattle and other Live Stock must be made on or before this day, and pedigrees delivered. *National Convention of Farmers, Gardeners, Silk Culturists, and their Friends*, at 11 o'clock, A. M., at the Mechanics' Hall, No. 472 Broadway.

Tuesday, Oct. 13th.—Making lists of Cattle. Agricultural Convention continued.

Wednesday, Oct. 14th.—First day of Cattle Exhibition. They must be on the ground by 9 o'clock, A. M. Agricultural Address at 7½ o'clock, P. M.

Thursday, Oct. 15th.—Second day of Cattle Ex-

hibition. ANNIVERSARY ADDRESS in the Tabernacle, at 7½ o'clock, P. M. The New York Sacred Music Society have, as usual, kindly volunteered their services. Visitors may obtain tickets free of charge, at the Clerk's desk.

The Managers desire strongly to impress exhibitors with the necessity of bringing their contributions early, to avoid the crowd and confusion usual on Saturday afternoon and evening, and the delay caused thereby, in well arranging, in season, the articles for opening the Exhibition, which will not be delayed beyond 12 o'clock on Monday, the 5th of October. Again, the Judges meet early the first week, when the examination takes place of articles for competition, after which a re-examination will not be admissible. Further conditions and regulations of the Fair will be posted on the desk and in other parts of the Garden. A label accompanying the articles, with the price and place where sold, would be a convenience to purchasers, and for the interest of the exhibitor.

In no case, whether there are competitors or not, will any article be entitled to a premium, if underserving of particular commendation.

At the last Fair, 34 gold medals, 35 silver cups, 181 silver medals, 255 diplomas, 170 dollars in cash, and 128 volumes of books, were awarded as premiums. They will be increased at the coming Fair.

The importance of an Annual National Exhibition in so central a situation as New York, the great mart of trade, where producers of all occupations resort in such multitudes, is obvious. It ensures a full display of the most perfect specimens from the fields, the gardens, the factories and workshops of our country; and enables the accurate observer to compare improvements from year to year, and note the progress of our growing republic, in producing and multiplying the enjoyments of life. The visitors, at a single Anniversary, have exceeded two hundred thousand, representing most of the States in the Union—an assemblage that has no parallel in this country. T. B. WAKEMAN, Sec'y.

New York, October, 1846.

POPULAR ERRORS.—No. 1.

UNDER this head we intend to write a series of articles showing up various fallacies in practice among the good people of our country. They will be theoretical or practical according to the subjects treated, and as we happen to be in the mood. For any hints from our friends by way of assisting to carry out our scheme, we shall be much obliged. We shall aim to make the articles entertaining as well as instructive.

Changing Seed.—There is no greater popular error than this, namely, that it is beneficial to bring seed from a distant field or farm, or different section of the country, or even a foreign land, for the purpose of *change*, in supposing that this *change alone* will obtain a superior crop, except occasionally from a high latitude to a low one, and sometimes *vice versa*. Ask the reason for this opinion, and the ordinary answer is, "Well, I don't know, but I *reckon* or *guess*," as the case may be, "it is a good thing to *change*. After a while, things in our country run out, and come to nothing, and to keep 'em up we must make a *change*." Ask

the man of science the same question, and he will answer, "that after growing a certain kind of grain, vegetable, or plant, in the same soil for a series of years, the said soil will become exhausted of the necessary elements to perfect the said grain, &c.; that it then inevitably deteriorates, and must be renovated by bringing similar grain from a distant locality, grown in a soil with somewhat different elements, and that such seed will be sure to produce with pristine vigor." And forthwith he adopts the *change*, without inquiring whether the seed actually has the exhausted elements required in it, or reflecting whether an article so small as many seeds are—wheat for example—can possibly hold a sufficiency of said elements to increase its growth of straw and grain in said exhausted soil, sufficiently to make it a good crop.

We hold it utterly impossible in this instance, and most others; for what is now wanted is as plain as the nose on a man's face. It is this: not a *change* of seed, but a *restoration* of those elements to the soil of which it has been exhausted by the crops carried off. For example, in wheat. Potash is the principal matter which has been carried off in the straw; gluten and starch in the grain; so that to grow good wheat again on the exhausted soil, it must be dosed with barn-yard manure, or muck, or vegetable mould, or with ashes, charcoal dust, lime, and bones. Then we may have good wheat again without the necessity of *change* of seed. Indeed, the seed may be improved rather than deteriorated by constantly growing it on the same soil, as has been repeatedly proved in this country.

Trees and Shrubbery Around the House.—A great error in disposing of these, lies, in planting them too near buildings—the house especially. No large growing tree should be nearer to the house than 100 feet, and if several acres of lawn are around, a distance of 200 or 300 feet would be still better. The smaller growing trees and shrubbery should be proportionally near.

The objections to trees being placed near to buildings are, first, if ever blown over they endanger the house; second, they keep the sides and roof so constantly damp, that if of wood, it decays much faster than it otherwise would; third, they harbor flies and mosquitoes; fourth, they hide the view of the surrounding country, and make the house dark and gloomy.

There is nothing so beautiful immediately around the house as a well-kept lawn, interspersed with little mounds of flowers, and an occasional flowering shrub. English grounds are thus arranged, and they are usually in much better taste than in America. If shade be wanted, it is much better to have a verandah running all round the house, with Venetian blinds or a movable canvass curtain attached to it in front. This is the plan adopted at the South, where their houses are kept as cool in the summer as ours are at the North, and without the danger, annoyance, and gloom, of trees planted too near.

CYDONIA JAPONICA.—The fruit of this handsome flowering shrub, which is abundantly produced, is a great improvement to an apple tart, if cut into thin slices or finely minced. One fruit is sufficient for a small tart, and two for a large one.

THE ALPACA.—No. 5.

Diseases, &c.—Inca Garcilasso tells us of a plague, wearing all the symptoms of a malignant cutaneous disorder, which attacked the tame as well as the wild varieties, and by the Indians was called *carache*, literally meaning the itch. This epidemic occurred towards the year 1544, and the disorder chiefly showed itself under the belly and round the joints, on those parts most divested of hair, and, spreading outrageously, carried off nearly two-thirds of the country sheep, from which period they have never been so numerous as before. It even reached the guanaco and vicuña, but among them was not so destructive, in consequence of their inhabiting a colder region, and not going so much in flocks as the tame breeds. This, however, was a rare occurrence, occasioned, no doubt, by the state of the atmosphere, as it extended to the foxes and other wild animals, and one that has never since befallen the country. It has frequently been remarked in Peru, that both the llama and alpaca, when taken down to the lowland towns, and kept there as pets, perspire as soon as the hot weather comes on, and, if neglected, a scurf forms on the skin. In their new character the coat is, of course, carefully preserved, as being ornamental; but if it is shorn off, and the animal bathed in the cool part of the day, before the system has been heated by exercise, or the natural warmth of the climate, the sufferer, in a short time, invariably recovers. It therefore, follows, that the loss of their fleece at the proper season is serviceable to these sheep, and helps to preserve them in good health.

Dr. Unanue, speaking of the climate of Lima, remarks "that cold and damp, suddenly coming on, are apt to check perspiration, which produces an irritation on the skin, and this, if neglected, ends in an eruption, and finally in the itch; but that, when taken in time, it is easily cured by a cooling medical treatment." The same causes produce similar effects on the alpaca. Soon after leaving the sultry coast of Peru, shut up in a crib fastened to the deck, the poor animals are hurried through the variable latitudes of Cape Horn, where heavy gales frequently occur, accompanied by torrents of rain, which necessarily must affect the prisoner. The first visible symptom is, that the animal experiences a nausea or sea-sickness, and abstains from food; in which case it droops, lingers, and dies. If, however, it has the spirits to accept the dry provender offered, sometimes tainted with bilge water, guano manure, or otherwise affected by the smell of the vessel, it survives in a weak and languid state; but too often contracts the disorder complained of, in consequence of the wet and cold currents of air, under the sails, to which it has been exposed, and through neglect and long standing, the eruption assumes a serious character.

The cooling remedy above pointed out they themselves seek; for when taken down to the heated atmosphere of the plains, should this rash break out, both the llama and alpaca instinctively go in search of a refreshing stream. This Mr. Stevenson noticed in his llamas, erroneously supposing that it was with a view to allay thirst. No alpaca run, therefore, if possible, should be without a rivulet; one, indeed, that in some part has a depth equal to three feet, but, if more, it ought to be paled off.

"Proper treatment," says Mr. Walton, "is not, however, the only point to be taken into consideration. In my own mind I have long been convinced, that the mode of obtaining these animals in Peru was injudicious, and, as regards the ruinous manner in which they are generally brought over, the facts already adduced will speak for themselves. I have even ventured to think that there are better breeds on the Andes slopes than those usually sent to Europe. The first proposition is placed beyond doubt by the incontestible evidence of General O'Brien, who, a few days after visiting Knowsley, wrote to me thus:—

"I think that the mode generally used for bringing the alpaca over to this country is defective. For instance, the captains of ships who arrive on the coast of Peru, give an order for two or three pairs, which are brought down from the interior, say fifty leagues' distance. The captain, who cannot be a judge of the animal, is glad to take what he can get, good or bad, as the first cost is only trifling, say from eight to twelve shillings each (about \$3). He then puts them on board, with some dried clover. The animals are sure to be old ones, as the aborigines are cunning enough to keep the younger stock for themselves, and one-half die before the vessel doubles Cape Horn. The others, which the captain brings to England, not unfrequently are old and past bearing, and even live only a short time—but why? Because, I answer, they are placed on some rich and heavy soil, probably in a park, as I have seen them at the Earl of Derby's and other places. They do not there enjoy the high mountain air; they become sickly, and then probably comes on the mange. Their native home is at least 10,000 feet above the level of the sea. The highest and most barren mountains in this country would be more congenial to the animal. Although the Earl of Derby, and others here, take particular care of them, yet those gentlemen must pardon me when I say that they are mistaken. I speak from experience; for I have bred some thousands, and also used them as beasts of burden to carry down the ores from my mines."

"Nothing can be more just than these remarks. Too liberal an allowance of rich and stimulating food to an animal extremely abstemious, and habituated to live on coarse and light herbage, and that in small quantities, must be injurious; but, above all, if we are to have alpacas, let us begin by placing them in a suitable climate, the more necessary after a long and tormenting voyage.

"Convinced that one-half of the failures in rearing Peruvian stock were attributable either to wrong food or over-feeding, I wrote to Alfred Higginson, Esq., surgeon, of Liverpool, to whom, in 1841, I was indebted for an interesting series of remarks on the stomach and intestines of two alpacas dissected by himself. Knowing that his attention had ever since been directed to the same subject, and that subsequent opportunities had presented themselves to him of further examining the digestive organs of several more which died without any ostensible cause, I requested him to favor me with the results of his last operations, which he politely did under date of May 15th, and in these words:—

"Of the three dissections of alpacas dying in this neighborhood, the last was, perhaps, the most im-

portant, and most characteristic of over-feeding, of which there were, however, signs in all. It may be nearly two years since my examination of the last, which died in a pleasant part of the country, a few miles from Liverpool, and where, as I am informed, the animal had the range of a paddock, with several more of its kind, and had sufficient access to water at all times. I found no fat in the interior cavities of the body of this, or the other animals; but on the surface it was rather more abundant in this than in the other two. It was a female, and the state of the bones showed it to be not quite fully grown.

"The viscera of the chest were in a healthy condition; but those of the abdomen drew my attention as being out of order in, perhaps, several respects. The stomach was much gorged with food, hay, and oats; the former very imperfectly masticated, and the latter quite whole. Whether their condition varied in the different cavities I cannot say, as the stomach, being wanted for a preparation, was not cut open, but evacuated of its contents through the œsophagus, with much difficulty. Large quantities of half-digested food loaded the intestines; whole oats and hay, in a still fibrous state, being found in the small intestines, and much hard fecal matter in the large intestine.

"The intestines were pretty extensively adhering to each other by their peritoneal coat, on which a rough deposit of crystalline particles, of great minuteness, but very numerous, had taken place. This deposit having formed most in the parts most dependent after death, made me think that it was probably of *post mortem* occurrence; and I have lately been confirmed in this opinion, by observing the same to have occurred in a dead rabbit. I thought the coats of the bowels weaker in some parts than is natural, for they gave way very easily, chiefly in the small intestines, in attempting to wash out their contents with water. The head was not opened, and the immediate cause of death may, therefore, have had its seat in the brain; but there is no doubt that such a state of repletion with food would much predispose an animal to fatal disorders. I have not had such opportunity of observing the diseased state of the alpaca's feet, as to give any definite notions on the subject of its ordinary appearance and course."

"The preceding results clearly show that the animal dissected, besides having taken improper nourishment, had been over-fed—the mistake committed by the greater part of our early breeders, and the one which, beyond all doubt, gave rise to many deaths. Mr. Edwards confesses that, at the beginning, his alpacas 'had a good deal of hard food—oats, beans, &c., besides grass and hay; but when they died so rapidly, he discontinued the practice, and only gave them grass, hay, and vegetables. Notwithstanding Mr. Stirling's success, I here take occasion to repeat, that the experiment of giving beans to animals accustomed to succulent herbage, is, in my opinion, a dangerous one. Their peculiarly framed stomachs are not adapted for dry and hard food, the best proof of which is their habitual abstinence from water. If, at home, they are ever treated with grain, it is maize or millet, in their green, soft, and milky state. A Peruvian would laugh to see us giving them substances which we

ourselves could not masticate until they have passed through the millstones. The herbage which they cull on their native hills, is to them meat and drink, and they vary it according to taste and the season. They select it themselves on a wide range, in this respect evincing a strong instinct; and if it is wished that they should prosper, they must be allowed to do the same with us.

"There is not, I feel assured, any disorder to which Andes sheep are liable, either at home or here, that could prevent them from being successfully bred in our isles. Mr. Tayleure mentions the disease with which his little flock was afflicted; but insinuates that the circumstance was owing to contact with animals imported subsequent to the possession of his first alpacas. Mr. Edwards remarks, that those he had were subject to the scab, and seldom free from it; but at the same time gives us to understand, that this disorder was attributable to the nature of the food of which the strangers partook. The other breeders agree that they have fared well, even in situations by no means eligible; and their earlier maturity with us is an additional proof that the climate agrees with them, and that on our pastures they find kindly herbage."

TENDENCY OF LIME TO SINK BELOW THE SURFACE OF THE SOIL.

It is remarked by Dundonald, in his "Treatise showing the Intimate Connection that subsists between Agriculture and Chemistry," that lime is known to have a tendency to sink below the upper surface, and to form itself into a regular stratum between the fertile and the unfertile mould. After breaking up pasture ground that formerly had been limed on the sward, it is frequently observed in this situation. This has been generally ascribed to its specific gravity, and to its acting in a mechanical manner. In gravelly, or sandy soils, there can be no doubt but that the diffusibility and smallness of the particles of lime will induce it mechanically to sink through the larger particles of the sand or gravel, and to remain at rest on the more compact stratum which may resist its passage.

When lands of this description have been limed, and kept constantly under annual crops, the greater mechanical process of the plow will operate against the lesser one of subsidence, and keep the lime diffused through the soil; but in clayey or loamy soils, which are equally diffusible with lime, and nearly of the same specific gravity, the tendency which lime has to sink downwards cannot be accounted for simply on mechanical principles.

In lands of this description, under the plow, the lime is dispersed or mixed with the soil, until such time as these lands are laid down with grass seeds. After remaining in this situation at rest for a certain number of years, on breaking up, a floor of calcareous matter will frequently be found lying immediately beneath the roots of the grass (*a*). This effect, contrary to the general opinion of its being disserviceable, is of great utility, as the staple or depth of the soil is always increased and rendered less retentive of water in proportion to the distance which the lime penetrates downwards; and thus by increasing the depth of the soil a greater scope is afforded for the expansions of the

roots and nourishment of vegetables. These effects of lime in soils, except in those that are gravelly or sandy, cannot be accounted for simply on mechanical principles, but may probably be explained on such as are chemical.

(a) Has this fact generally been observed by American farmers, who have given their land heavy dressings of lime? If so, to what cause do they attribute it? Have they derived any advantage thereby in clayey soils?

PRICES OF PRODUCE.

WE hear much complaint on the part of farmers, about the present low price of produce, and fears are expressed that they may be still lower. We are of opinion that this last cannot well be, our reasons for which are brief.

First, the potato crop is badly injured by the rot in Great Britain and Ireland; the consequence is, these countries will want large importations of Indian corn and wheat from the United States, to supply their place. Nearly a million bushels of Indian meal were given out last year, by the Government, for the use of the Irish peasantry, in consequence of their loss by the potato rot; and this, be it understood, notwithstanding the late high duties, and the strong prejudice of the people against this new article of food. Now, that prejudice is rapidly wearing away, and the article can be afforded at a much lower price. Owing to its nominal free admission, under the new British Tariff, the consumption for the coming year will be greatly increased. The potato rot in our own country proves much more extensive than last year, which will add something extra to the consumption of flour, meal, and rice. Second, an uncommon demand has lately sprung up in Germany for American rye, for distillation and other purposes, and this seems likely to be on the increase. Third, mechanics and manufacturers generally find full employment, and in our humble opinion are likely to continue to do so, notwithstanding the reduction of duties under the new American Tariff Act. In addition to this, several thousand persons the past season have left their agricultural pursuits and engaged in the Mexican war, and thus, for a short period at least, have made themselves consumers instead of producers. Fourth, business generally is very good, not only in this country but in Europe, giving active employment to the people. The combined effect of all this must have a tendency to keep prices from falling any lower than they now are.

But supposing produce to be lower this year than it was last, are not other things correspondingly so? We do not speak of the prices of flour during the insane speculations of last winter—for they were totally unwarranted, as subsequent events proved—but of the healthy ruling prices of the first ten months of the year 1845. Labor is cheaper, especially that of mechanics; and many kinds of manufactured goods are also cheaper, with a tendency to downward prices. Considering all things, the farmers have great cause to be thankful for their abundant crops, and that prices are so good as we find them.

MOUNTAIN FARMING.

DURING the month of July last, we spent a week rambling among the farmers of the Catskill Mountains. Our main route was thus. We landed at Saugerties, passed up the Kauterskill Clove, down the valley of the Schoharie several miles below Plattsville, thence round to the head waters of the Delaware, thence to the sources of the Sodus Creek, and thence down its course to Kingston. During this tour we occasionally deviated from the main route, making short excursions through various defiles of the mountains, and ascending some of their loftiest peaks—among others, that of the Round-Top, the highest of all. The view from this peak is much more grand and extensive than from the celebrated fashionable resort—the Mountain House. Late barometrical observations make its height upwards of 4,000 feet above the level of the sea. The top is conglomerated rock, with very little soil upon it; yet, notwithstanding this, and its great height, the forest is quite dense. We found many of the trees from 35 to 50 feet high, with a diameter of 18 to 30 inches. Their growth seemed thrifty and vigorous. Quite a variety of flowers flourish there, and the mosses are beautiful, and very abundant.

The Catskill region embraces a surface of at least forty square miles, bristling with several hundred peaks, scarcely one less than 1,500 feet high, measuring from the base from which it springs. The scenery throughout is grand and varied. This is a much superior farming country to what we had anticipated. The land bordering the creeks is generally a rich alluvial, varying from a few rods to a quarter of a mile in width. We found all kinds of crops, except corn, growing up the sides, and on the table lands of the mountains, at least 3,000 feet above the level of the sea. The early kinds of corn ripen well in the valleys. Roots do exceedingly well here, especially turnips; and the grass is famous for its sweetness. Much of the butter passing under the name of *Goshen*, is made among the Catskills. It is a great dairy district, but we think it would be still more profitable if the higher portions of it were turned into sheep pastures. The soil generally is a red shale, formed by the disintegration of a reddish-brown slate stone. The rocks are of great variety.

We saw many excellent farms during our tour among the mountains, and found their owners intelligent, industrious, and disposed to make the most of their situations; but the general method of cultivating rough hilly land, throughout the United States, is wrong in the extreme. We conceive that this arises mainly from an erroneous principle, which is carefully instilled into the minds of American farmers. It is this—"every one should raise all he wants to consume on his farm and in his family." Acting upon this principle, the possessor of a rough mountain farm adopts precisely the same course in its cultivation that the owner of smooth fertile plains does. Can anything be more absurd? Just calculate the difference in the cost of plowing the one and the other; the carting out of manure and the harvesting and carting home of the crops; and then the difference in the yield is greatly in favor of the latter. Such is not the method of

culture usually practised in Europe; though land there commands, on an average, four times the price that it does here, and labor is not more than half so dear.

If asked what would be our system of farming mountain land, we should reply, cultivate every alluvial valley and level spot in the most perfect manner, with grain and root crops; the next section above it we would devote to fruit trees, hay, and the pasturage of a fine-boned, medium-sized, hardy race of cattle, like the Devon, for instance, or Black Galloway; and the rougher or more mountainous parts, entirely to the pasturage of sheep. The surplus products for sale then, would be fruit, butter, cheese, cattle, sheep, and wool; and the only product necessary to purchase in return, would be wheat flour. Under this system little hay would be necessary, as we should dispose to drovers in the autumn all sheep and cattle, except such as were necessary to be retained for breeding the following spring.

Thousands of acres of mountain land in the United States, are annually put under the plow for a regular succession of grain and root crops, which in Europe would be kept undisturbed for sheep pastures, for they have well considered and experimented in the unprofitableness of rough hilly culture. Under this system not a fence is required, which would be a vast saving of expense. As soon as the forest is cleared off, the surface stones should be picked up and piled into heaps, and the land then be sown with a mixture of several of the best kinds of grass seed. When well set, turn on cattle and sheep in large herds and flocks, with shepherds and dogs to take care of them. In this way a few persons would manage several thousand acres at a trifling expense.

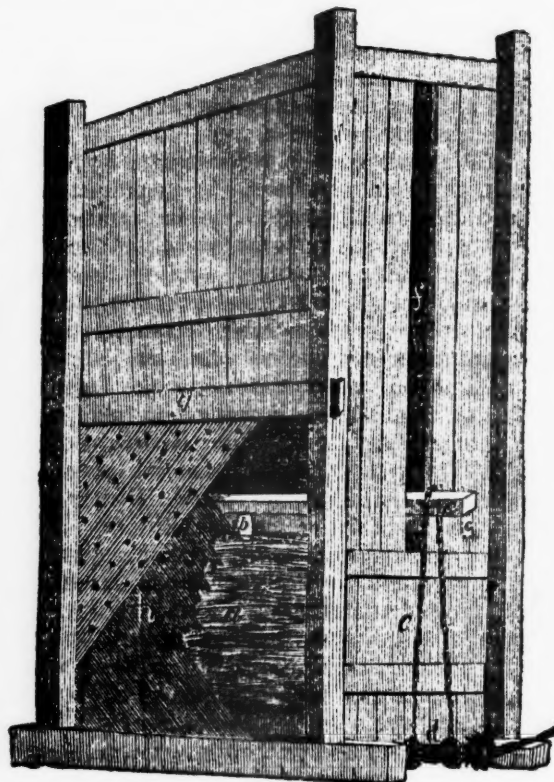
DEATH OF COL. ALEXANDER MACDONALD.—We deeply regret to learn that this gentleman died after less than a week's illness, at his residence, at Eufaula, Barbour County, Alabama, on the 16th of August last. His disease was fever. Col. MacDonald was President of the Barbour County Agricultural Society, and one of the most efficient promoters of agricultural improvement at the South. He was a frequent correspondent of this and other journals. He was a good citizen and professing Christian, and died in hopes of a blessed immortality. His loss will be severely felt in his community, nor will it be easy to supply his place.

ECONOMICAL HAY-PRESS.

HAVING had many inquiries for hay-presses from time to time, and not being able to answer them satisfactorily to ourselves, in consequence of those within our knowledge being either too cumbersome or too light to be efficient in their operation, we think we have now found one that will answer the purpose when only a limited quantity of work is required to be done, and the hay is not to be very densely pressed.

The description subjoined we trust will be sufficiently intelligible to enable any ingenious carpenter to build a machine of this sort after the iron castings are furnished, the whole press not costing over \$40.

A man and boy can easily press two tons of hay in a day, which may look like small business to some of our large hay-pressers; but it appears to us that such a machine is wanted by many of our small farmers who find it necessary to send their hay to market in its ordinary bulk. We are authorized to say that any one may build these presses without the fear of molestation of a patentee. A press of similar construction is in the possession of our worthy friend and correspondent, Mr. Tyler Fountain, of Peekskill, where it may be seen in operation, and who has furnished us with a drawing, and the dimensions of some of the materials of construction.



HAY-PRESS.—FIG. 70.

- a, Hay when fully pressed.
- b, Follower.
- c, Pressing beam.
- d, Windlass.
- e, Rope or chain.
- f, Aperture for guiding the pressing beam.
- g, A bar for fastening up the door.
- h, Section of the doors for retaining the hay.

Dimensions of the Frame, &c.—4 posts, 8 feet long, 4 inches by 4 inches; 5 girths, 5 feet 10 in. long, 4 in. by 4 in.; 6 cross-girths, 3½ feet long, 4 in. by 4 in.; lower ones 2 feet apart; 2 sills 7 ft. long, 10 in. by 4 in.; 4 cross-sills, 3½ feet long, 10 in. by 4 in.; inside lined with 1½ inch plank.

PROPER SITUATION FOR A GREEN-HOUSE.—The aspect of a green-house may be at any point from east to west, following the course of the sun; or it may even be a little to the north of east or west; but only a little, and the less the better, otherwise the plants will not generally thrive in it, nor will the flowers acquire their natural colors. A south aspect is to be preferred.

NEW YORK FARMERS' CLUB.

THE meetings of this Club have not been very fully attended the last few months, owing to the extreme heat of the season, the absence of many persons from the city, and the necessity of the farmers in the vicinity to remain at home and attend to their crops.

Grafting the Tomato upon the Potato.—Mr. Meigs read from the "Annals of the Royal Horticultural Society of Paris," an account of a successful experiment of grafting a stem of the tomato upon the stalk of a potato, by which a crop of tomatoes was raised in the air, and one of potatoes in the earth. He also read from the same journal an extract from a paper by Baron D'Hombres-Firmas on a

Journey to Pastum, in which it is stated that, near Naples, they cultivated large fields with gourds, and among them heads of cabbages, cauliflowers, salads, and other kitchen vegetables, all of which grow and prosper together. They also cultivate large quantities of melons, the consumption of which is enormous, for nearly half the year. These melons are preserved in winter suspended in straw under the roofs and about the windows of the houses both in the country and in town. Large fields of Indian corn were mentioned, the stalks of which served for beans to climb upon and ripen after the ears had been gathered. Plantations of mulberry-trees were also observed, entwined by grape-vines, and the grounds beneath them richly laden with bolls of cotton which are picked from August till October, and dried in the sun. The mulberry-trees, which shaded the cotton plants, after having fed two generations of silk-worms, were in vigorous leaf for the third time.

Valencia Winter Melons.—Mr. Charles Henry Hall, who resided several years in Spain, and particularly directed his attention to the products of that country, said, that the melons mentioned by the Baron of Hombres-Firmas, are the same as those known at Valencia by the name of *winter melons*. They are preserved there for half the year by being suspended in small nets under the projecting parts of the roofs of the houses, in a similar manner as they are in Italy. He said that, when he returned to the United States, he brought home several of these melons in a perfect state of preservation, and that others were consecutively cultivated from their seeds, in New York, until they run out by cross-fecundation.

Wine-making.—Mr. Hall stated that he had had some experience both in raising grapes and in making wine; and that he had personally examined the vineyards in Europe, and the caves or cellars there, which are indispensable for the manufacture and preservation of good wines. He said that wine is made with as much facility, nearly, as cider. Before the "must," or expressed juice of the grape undergoes its first fermentation, it may vary in its specific gravity according to the kind of wine into which it is to be made. That of the best white wines of France and Spain has a specific gravity of 1.083, which is determined by an instrument known under the names of *hydrometer*, *aérometre*, *saccharometer*, &c. If the specific gravity of the must is below this point, it is increased by the addition of

sugar. By this means, good wine can be made from the juice of unripe grapes. While the must is undergoing its first fermentation in the vats, a scum or froth rises to the surface, in a similar manner as the pomace and other impurities do in the "working" of cider, which is skimmed off. When it becomes clear it is put into casks, and kept in a cellar or cave of a temperature of about 60° F., where a second fermentation takes place, and where the wines are finally prepared and kept for use, or for exportation. In the manufacture of wine, he said, the addition of alcohol is unnecessary, and contrary to the prevailing opinion, it will keep and bear transportation as well without it as with it. While in Spain, he ascertained that most of the wines of domestic consumption, as well as those exported to the West Indies and other colonies, for the use of the Spaniards, were made without the addition of brandy; whereas, all the strong wines shipped to Britain and the United States, contained at least 25 per cent. When the makers of wine for export to England or to this country were asked by him, why they put brandy in it, the answer was—"You, English, have hot mouths, and we must gratify them."

Wine from the Isabella Grape.—Mr. Hall observed that he had made some excellent wine from the Isabella grape, in a perfect state of maturity. By adding to the must, or grape-juice, three-fourths of a pound of sugar to a gallon, he obtained a wine much resembling the quality of hock; by adding a pound to a gallon, a fair wine was produced; and with the addition of a pound and a half of sugar to a gallon, he obtained a fine sweet wine, which, when tasted by some gentlemen who were experienced in the qualities of wine, not knowing whence it came, was pronounced by them as a foreign article of a delicious flavor, resembling that of Muscat.

Mortality among Horses.—The Secretary called the attention of the Club to a distemper prevailing among horses in the neighborhood of this city. The disease was principally confined, at first, to Kings County, Long Island, but has since appeared at Flushing, Staten Island, and other places. This malady appears to reside in the head, and generally proves fatal in one or two days. In every instance, it is said, the horses had been turned out to pasture, and those which have been constantly kept in stables, have escaped the disorder. In several cases, the animals have been carefully opened, and every part, except the head, was found to be sound. The brain, on dissection, appeared like a mass of clotted blood. The disease, it would seem, is not contagious, because, in one instance, a horse died, where there were standing in a stable several other horses by his side, and none of them were at all affected. It is believed by many that the disorder has been produced by the effects of the sun, which, if true, it is hoped, as the weather becomes cooler, will soon disappear.

Mr. Hall stated that he had seen a similar epidemic in the horses of Spain, a kind of apoplexy, or "blind staggers." He said that it had been cured by winding blankets steeped in hot water around the head of the animal, and following it up by copious bleeding.

Pauper Labor on Randall's Island.—A deputation appointed by the American Institute a few weeks since, to visit the New York Alms House Department on Randall's Island, presented the following paper on that subject, which was read:—

The undersigned from the Farmers' Club on the invitation of Moses G. Leonard, Esq., Commissioner of the Alms House Department, having visited Randall's Island on the 5th inst., in company with his Honor the Mayor, several of the Aldermen, and other citizens, ask leave to Report

That Mr. Leonard's object was to present to the citizens some knowledge of the success which has thus far attended his endeavors to cultivate this farm by pauper labor. It affords us much pleasure to bear testimony to the excellence of his arrangements, and the great promise which is thus far afforded of signal success. Since the failure of an experiment attempted some years ago on the Long Island Farms, it has been deemed impracticable by many to cultivate the soil advantageously by pauper labor. But after witnessing the progress made under the direction of Mr. Leonard, we are far from adopting any such conclusion; on the contrary, we feel much encouraged to believe, that by steady perseverance in a well devised plan, the paupers of our city may be made to contribute largely to their own support, without exacting from them a greater amount of labor than will be found essential to their own comfort and well being. But it cannot be expected that any plan, however well devised, for the accomplishment of an object so desirable, can be expected to prosper, if the supervision of its details is doomed to continual change from one to another. Once under the supervision of those having the requisite qualifications, it should, upon no slight cause, be changed.

Randall's Island is about nine miles distant from the City Hall, lying between Harlem and Long Island. It forms on one side a part of the east bank of the Harlem River, and on the other side a part of the west bank of Long Island Sound, with narrow channels on the north and south, difficult of navigation. It contains 138 acres, of marsh and upland. Some of the best fields on the island, however, have been rendered unfit for immediate tillage by the erection and recent destruction of buildings by fire, intended for the accommodation of the poor of the city.

Mr. Leonard did not get possession of the Island until the middle of May last, at which time no preparation had been made for producing a crop. Nevertheless, he has secured from 80 to 100 tons of excellent hay; there are two fields of Indian corn, containing at least five acres, equal in appearance to any we have seen, averaging full twelve feet in height; one field of six acres, bearing potatoes; one of buckwheat, four acres; and one of turnips $1\frac{1}{2}$ acres, all in excellent order, and of fair promise; also 2,000 heads of cabbage. From the 15th of June to the present time 40 cows have been milked, furnishing daily 300 quarts of milk to the nursery on Long Island, where there are 700 pauper children, reserving as much as is required for the farm. There have been two very comfortable buildings erected on Randall's Island, for the accommodation of the laborers, and there is a

stable now in process of erection, intended for the cows in winter. All this is entirely the result of pauper labor.

We sincerely hope that Mr. Leonard may be permitted to go on and carry out the plans he has intimated to us, of furnishing labor to all the inmates of the establishment capable of performing such, stimulating them by a system of rewards which will call for no additional charge upon the city, and, if successful, will materially lessen the cost of maintaining its poor.

The Island is the property of the city, having been purchased from the Messrs. Randall in 1832 for \$60,000. There could not be a better place for the experiment than is here afforded. The milk alone which has been already furnished, estimating it at 4 cts. per quart, provided the quantity should be continued, will amount to more than 7 per cent. per annum, on the cost of the Island, and, so far, there have been but 70 paupers employed. There are in the establishment nearly 500, that may be employed in agricultural labor, besides a large proportion of the children, whose labor, at particular seasons of the year, may be made extremely valuable.

It is not extravagant to estimate that the 70 paupers employed on Randall's Island have, thus far, maintained themselves, and produced a surplus which would be equal to over \$4,000 per annum. If, then, the whole 500 could be engaged in agricultural labor with corresponding advantage, together with the occasional labor of the children, in addition to their own maintenance, they would produce to the city a revenue of \$30,000 per annum.

Two of the Messrs. Randall having been present on the occasion of this visit, we have obtained from them some reminiscences worthy of record. The Island, formerly called Montezoué, was purchased by the family in 1784, from Col. Ogden, of New Jersey, for \$6,000. It was then in a very neglected state, nearly destitute of trees, fences, &c. The excellent fruit which has been produced here, and is still retained to some extent, has resulted from the labor and enterprise of this family. Peaches were formerly one of the products in great abundance, and of the very best quality, but about 40 years ago the crop failed, and the trees gradually decayed, since which, very few have been produced on the Island. This was the case also in the adjacent country, and was generally attributed to a change in the climate, as no other assignable reason seemed to present itself, until the disease called the "yellows" and the peach borer were found to be the cause.

The Vergaloo pear was produced in great abundance and perfection until about twenty years ago, when the crop failed. The trees have since yielded no fruit worth gathering. They put forth their blossoms and foliage in the spring, and appear to be vigorous, but the fruit, after attaining about half its usual size, turns to a dark color, cracks, and dries up; some specimens of it are herewith presented to the Club. These trees may be restored, we think, by proper culture.

Cherries have been very abundant upon the Island—there are several varieties, and the quality excellent—the Blackhearts are most numerous.

The celebrated Dyckman cherry, or Black Tartarian, was first grown in America on this Island, about 40 years ago.

The Newtown pippin flourished on the Island, one thousand barrels of which have been obtained in a season. In all there are about 20 acres of fruit trees.

In 1820 the receipts for produce sold off the Island amounted to \$6,000, independent of the supply of the family. The produce sold consisted entirely of fruit, vegetables, and hay. The hay alone, after retaining enough to winter 26 head of cattle, sold for \$1,600. In 1839 Mr. R. sold 14,000 lbs. of cherries.

The elder brother, who was present (Mr. John Randall), resided on the Island over 50 years. He states that the family, with the exception of one year, 1824, enjoyed uninterrupted good health. During that year, they were afflicted with ordinary bilious fever, of which three members of the family died. Intermittent fever had not been known to the family during their residence on the Island.

ADONIRAM CHANDLER.

D'JAY BROWNE.

FRANKLIN KNIGHT.

HENRY A. FIELD.

New York, Sept. 15, 1846.

Mr. Charles Henry Hall pointed out the importance of bringing up pauper children to habits of industry; and of all pursuits, he said that of agriculture had the most salutary influence in the formation of their characters, and consequently prepared them for usefulness when they came to be men. He said there is no reason why they should not be brought up as well as farmers' sons—to be taught to know that they are accountable beings, and that it is their duty to do something for themselves, and be made to feel that they are not entirely dependent upon the bounty of the city for support; but live in a land in which they are capable of becoming useful citizens, and can enjoy the sweets of freedom, independence, and happiness. He said that it has long been his belief, that, under judicious management, our alms-house can be made to support itself by pauper labor. He cited several instances where this has been done in other cities, and as a case in point, he referred to that of Salem, in Massachusetts. He hoped that this subject would not be suffered to pass the Club without further notice, and expressed a wish that the gentlemen who had so ably and correctly reported upon the agricultural capabilities of Randall's Island, be invited to continue their inquiries.

Similar sentiments were also expressed by Drs. Field and Underhill, and by Messrs. Hyde, Van Wyck, and others, whereupon it was moved by Mr. Wakeman, and sanctioned by the Club, that a vote of thanks be tendered to the gentlemen of the Report, and that they constitute a committee for the further investigation of the subject.

AGRICULTURAL MEETINGS.—The American Agricultural Association will hold a regular meeting on Wednesday, the 7th inst., at 7 o'clock, P.M., at the Historical Society's Rooms, N. Y. University.

The N. Y. Farmers' Club will hold their next meeting conjointly with the Farmers, Gardeners, and Silk Culturists' Convention, on the 12th inst., at 11 o'clock, A.M., at Mechanics' Hall, Broadway.

CULTURE OF THE VINE IN AUSTRALIA.

THROUGH the kindness of A. H. Palmer, Esq., Director of the American and Foreign Agency, at New York, who holds an extensive correspondence in all the countries of the East, we have received the "Journal of the Agricultural and Horticultural Society of Perth, Western Australia," from which we make the following extracts from the "Report of the Vineyard Society," formed for the purpose of establishing in that colony a Model Vineyard:—

The season of preparation for the vineyard being already advanced, it is proposed in the present letter to treat only on such operations as should occupy the interval between the present time and the first week in August (*a*), when, at the latest, the planting out of vine cuttings should be completed. Those operations will therefore comprise—1st, the selection of land for the new vineyard, as regards soil, situation, aspect, and shelter; 2d, the preparation of the land—viz., manuring, trenching, and fencing; 3d, the best varieties of the vine from which to select cuttings; 4th, the treatment of old vines and vineyards.

On Soils.—The soils best adapted for vineyards are classed in the order of their relative superiority. 1st, light calcareous soils; 2d, light soils on granite; 3d, light soils on other rocks or gravel; 4th, light sandy loam; 5th, sand; 6th, loam, or any soil except clay.

It is to be observed, that almost all wines of the highest reputation in Europe are produced in calcareous soils, rather deficient in fertility, and generally on elevated hilly ground. The produce, of course, is small. The ordinary wines are the growth of richer soils, making up in quantity for deficiencies in quality, and the latter are frequently the most profitable. Under similar treatment, therefore, the comparative quantity produced in different situations will afford a tolerably accurate test of the various qualities of the wines.

The best situation to select for superior wine in this country will be a hill side, sheltered from the harsh southerly winds, with a calcareous or granite soil, and having an easterly aspect, which will protect it from the rays of an evening sun. For ordinary wine, the alluvial flats or other rich lands will be preferred, and a medium quality of land will be chosen for a somewhat better wine.

Raisins, Zante currants, and sweet wines, should be cultivated on rich lands.

The first market to be supplied will be at home, for internal consumption; the settler will therefore select a situation for his vineyard near his homestead, and within reach of protection, combining as many advantages as he can. The banks of red and brown sandy loam descending into the alluvial lands on the Swan, and generally known as *native-hole lands*, have already been proved to answer well for this purpose, by a gentleman who has taken the lead in the cultivation of the vine, and from having been constantly moved by the natives in search of roots, would require little preparation. An upland stubble, or any light soil of a tolerably fertile character, and *well drained*, will answer for this purpose, provided it be sufficiently sheltered.

Preparation of the Land.—Trenching from two to three feet deep, according to the soil, is quite essen-

tial, and the land should be previously well manured and plowed in. In trenching, care must be taken to place the top soil, which has been manured, at the bottom of the trench, and the virgin soil, which has been taken from the bottom, is to be laid on the top. The subsoil thus placed on the surface prevents the roots from pushing upwards, which would injure the plant; and the manured soil at the bottom of the trench nourishes and draws the roots downwards, thereby protecting them from the scorching heats of summer. Trenching should take place in dry weather, and the clods must be well pulverized, as hollow spaces in the soil are prejudicial to the plants. The land should now be walked upon as little as possible, especially in wet weather.

On Manures.—A variety of opinion exists as to the sort of manure best adapted for the vineyard, but the prevailing belief is, that the manure of cattle is best suited for light, sandy, or gravelly soils, which are liable to aridity; and that the manure of the horse, sheep, or goat, is best calculated for strong and damp soils in level vineyards. The manure of pigs is supposed to be prejudicial to the flavor of the wine, and too much manure is also injurious to its quality; but this observation does not apply to new vineyards, where the cuttings and young plants must require much nutriment in the early stages of their growth.

It is hardly necessary to observe that a vineyard should be effectually fenced against all descriptions of live stock, but this important work may in the present instance be deferred until the vineyard is planted, the operations of which will probably fully occupy the remaining part of the present season.

Having fixed on a vineyard site, and determined on the sort of produce to be cultivated, the suitable cuttings should be obtained, cut into lengths of three buds, tied in bundles, and laid in a cool dry place; watered over, or plunged into water occasionally, and, the day before planting, the lower ends re-cut, so as to renew the wound, and the bundles set upright in about four inches depth of water; the object being to start the vegetation of the lower before the upper part. They are then to be planted, and, assisted by a little manure, with the uppermost bud a little above the surface. Should this bud refuse to vegetate, lay bare the second. Cuttings should be from vines above 4 years old, if possible; the shoots of young vines being too porous to form good stems. Of course, the thickest and nearest to the old stems are preferred.

The distance of the plants is a subject on which we are hardly able as yet to afford much information; the European vineyards differing in this respect to the enormous extent of from 10 inches to 7 feet. Two points are to be attended to—the shelter of the ground from the sun, and the space requisite for the proper supply of wood, and for the convenience of tillage and vintage. Without entering at length on this very important but imperfectly known subject, the Committee are inclined to recommend 4 feet distance in the rows, and 5 feet between the rows; from a combined consideration of the great heat of our vintage season, and the luxuriant growth of our vines. This subject, as well as the pruning, training, &c., will be more

fully treated hereafter. In trellises, vines have hitherto been very much crowded. It may in general be said that in this country the trellis should never be less than 18 feet wide, and the plants 20 feet asunder; the old wood an upright stem, the bearing wood always horizontal.

The chief object in pruning a vine is to increase its fertility, which is effected by cutting out the superabundant wood, and adjusting the number and length of the branches which are to remain, to the age and strength of the plant, for the ripening of the fruit, and for the production of wood for the ensuing year. The great object to be gained is to get rid of as much old wood as possible, as it never bears fruit after the first year, yet has still to be supplied with sap which ought to be applied to the production of fruit, and shoots for the following year. Now, on the old system of spur pruning, it is quite evident that in a few years there is a great accumulation of old wood which cannot be got rid of, which is not only unsightly to the eye, but is a positive injury to the tree, and a great loss of fruit; there are also at the time of pruning a much greater number of wounds to be healed, which likewise take away from the strength of the plant. To obviate all this, the Committee would recommend the system of long pruning, for which they will now proceed to give some directions as being not only more simple, but more efficacious in every respect.

First Year.—As soon as the vines are planted cut them down to within three eyes of the ground. In the spring, when the buds begin to break, take the two strongest shoots and tie them carefully to sticks as fast as they grow, never allowing them to be blown about by the wind. As soon as you have secured two shoots by tying them, rub off the other, the only object in leaving three shoots being to guard against the accident of one being broken; keep them thus growing all the summer, pinching off all the laterals, but leaving one eye to each of them, which is left as a vent for any superabundance of sap; for if the tree is very strong and the laterals are taken off without leaving an eye, it will often flow into the fruit buds, and cause them to burst, and thus spoil them for fruit the ensuing year; this is meant as a general rule, let the age of a plant be what it may.

Second Year.—At the proper season for pruning cut both shoots down to about a foot, and spread them out in a horizontal direction, one to each side, taking care not to break them; and secure them in that position. In the spring, when you have secured two shoots, one from each branch as near the extremity as possible, rub off all others, so as to throw all the strength of the plant into them.

Third Year.—The plants now, if they have been properly attended to, will have made strong shoots, and be able to bear fruit; in that case, cut one shoot down to one eye, leaving the other from two to three feet long. Now, if this were left quite perpendicular, it is certain that only two or three eyes at most would break, and those at the extreme end. To obviate this, the shoot must be bent and tied in the shape of the letter S; the bends in which, checking the flow of sap, cause the buds to break regularly all the way up. As soon as the shoots are long enough pinch off the tops, leaving four eyes above the fruit, so as to throw all the

sap into it. The other shoot that was cut down to one eye must be suffered to grow as long as possible, as that is to be the fruit-bearing shoot the next year.

Fourth Year.—The branch which has borne fruit must now in its turn be cut down to one eye, and the other, which was allowed to grow its full length all the summer, must take its place, being trained in the same way, only that, as the tree is now stronger, a greater length of wood may be left for fruit, which will increase every year as the tree gets older, bearing in mind the principle, that the two shoots must bear on alternate years, one shoot bearing fruit and the other preparing for the next year. This course may be continued until the tree is strong enough to have two more shoots laid in, one on each side; when having four shoots the proper method to cut them would be to let Nos. 1 and 3 bear one year, and the next year Nos. 2 and 4, by which means your fruiting shoots would never interfere with each other.

As a general rule for the length of shoots to be left, the following table is recommended, taking the girth of the stem six inches from the ground. As the length increases, care must be taken that the number of bends also increase, giving a good bold bend every time; it will not injure them even if the bark cracks a little in the operation:—

3 inches in girth,	1 shoot 2 feet long.
3½ " "	1 " 3 "
4 " "	1 " 4 "
5 " "	1 " 5 "
6 " "	1 " 6 "
7 " "	2 " 5 "
8 " "	2 " 6 "
9 " "	2 " 7 "
10 " "	2 " 8 "
11 " "	2 " 10 "

Some few free-growing sorts may probably bear a little more, but for the general collection the above will be found quite sufficient.

(a) The month of August in Australia corresponds to February in the United States.

SIXTH ANNUAL SHOW

OF THE

NEW YORK STATE AGRICULTURAL SOCIETY.

THIS was held at Auburn, on the 15th, 16th, and 17th of September. The concourse of people attending it was as great as at any of the preceding exhibitions; full 40,000 having visited the grounds during the three days of the show. A copious shower fell on the night of the 14th, which completely laid the dust, and nothing could have been more favorable than the weather which followed.

Show Ground.—This comprised about thirteen acres, and was laid out on Capitol Hill, in the precincts of the village. The ground was well chosen, being covered with a firm turf, of a slightly rolling surface, and commanding a beautiful view of the adjacent country. It was enclosed with a high, tight board fence, inside of which, at a suitable distance, was a railing put up all around, except on the front side, to form the carriage drive. The sheep and pig pens were arranged along the south and west sides of this railing within, while the cattle were tied up on the north side. The intermediate

western segment was occupied by the horses. Near the centre of the ground was Floral Hall, devoted to flowers and fruits; on either hand in the rear, were the Domestic Hall, for fabrics of all kinds; Farmers' Hall, for butter, cheese, lard, &c.; and Mechanics' Hall, for farm implements of the smaller and higher finished kinds. Then there was the great tent pitched on the south side, at least 40 feet in diameter, under which was delivered the annual address, and the reports of Committees read. At the north side were various small tents for the use of Committees, &c. The Business Office stood outside of the enclosure, at the north-east entrance; the Ticket Office a little distance south, immediately fronting, and about 100 yards in advance of the great entrance gate to the show grounds. In addition to these, two halls on the north side within the enclosure were allowed to be occupied for refreshments for visitors. Plenty of hay and water were provided for the stock on the show grounds. Floral Hall was upwards of 120 feet long, and in form of a Greek Temple. The front and pillars were densely covered with evergreens, giving it a most enchanting rural appearance. The other buildings were of corresponding size, and very commodious. Taking it all in all, the arrangements were more complete than at any former exhibition of the Society; and the Committee superintending them deserve high praise for their indefatigable endeavors to make everything so perfect on the occasion.

Trial of Plows.—This took place on Tuesday the 15th. There were few plows present, and these not of the best kind. However, we consider this of no importance, so long as the trials are conducted as the Society has hitherto pleased to order them. They *prove nothing at all*, and are a mere waste of time. The excellent Committee on the occasion did the best they could to make the most of the affair. But pray what results can they arrive at, so long as *one quality* of ground, and that a stiff clayey green sward, is to be turned over? Does the plow best fitted for this, answer best in a deep friable loam? or on a light sandy soil? or in a wet meadow? or among rocks and stumps? or on a stubble field? We should be very glad to have these questions answered, if they can be satisfactorily and in accordance with the rational principles of mechanics.

Wednesday and Thursday were the great show days, and early on the morning of the first, the people, stock, &c., began to assemble, and soon filled the area of the show-ground.

Horses.—This was, as we expected, the best exhibition of horses by far that has ever been made. There were present the beautiful thorough-bred, the superb roadster, the poney Morgan, and the immense cart horse, together with mares, foals, and match carriage and single horses. Thursday afternoon all these were drawn up in two lines fronting each other, with 20 or 30 feet of open space between them. The stallions, mares, and foals, occupied one line, and the match and single horses, in harness and under the saddle, the other line. They stretched quite across the show grounds and made a most imposing display. It might be considered invidious in us to distinguish upon such an occasion, but we must confess we were highly pleased with *Busirus*, belonging to Dr. Irvine of Pennsylvania. He was

bred by his father, the late General Irvin of Philadelphia, and was got by Eclipse, out of one of the late John Randolph's strongest and best bred mares. Bursus stands 16½ hands high, and weighs 1300 lbs. His form is good and his action very fine. He strikes us as an invaluable horse for roadstock.

Cattle.—The exhibition of Durhams and Herefords was rather meagre, though better in the former class than last year. Among them was Mr. Vail's magnificent cow, Lady Barrington, recently imported. She took the first premium. We greatly admired the fine, compact, and almost perfect proportions of Col. Sherwood's Lily, and thought her highly deserving, though she got no premium. However, to make amends for this, his excellent bull, Symmetry, was awarded the first prize. Col. S. made much the largest show of Durhams of any one on the ground. The Devons were fine, and a good number of them. They were principally from the stock of Messrs. Beck, Garbut, Washburn, and Allen. Mr. W. had a cow on the ground which has made her 14 lbs. of butter per week. This, considering her size, is most extraordinary. The Devons are much better bred for milking qualities than formerly, and are really a most profitable kind of stock, especially on short pastures. We noticed only one Ayrshire, and very new native cows. The show of fat cattle in pairs was most superb. Mr. James S. Wadsworth, of Geneseo, had sixteen yoke, and three spayed Durham heifers. Five of his oxen were thorough bred Durhams, and two pure Devons. One yoke, only four years old, weighed 4,240 lbs. Col. J. M. Sherwood exhibited ten very superior yoke of cattle. Mr. Elon Sheldon, of Sennett, and his neighbors, eleven yoke, all highly to be commended. The single fat oxen were large and fine.

Sheep.—A larger number of Saxons and Merinos were present than ever before shown—some of which were very fine, and others ordinary enough. Representatives from several flocks which we expected to see here, from some cause or other were not present. The Long-wools and Southdowns were few in number, but of a good quality.

Swine.—Very few of these shown. The best were Berkshires and Leicesters—a fine white hog.

Poultry.—Here the display was rather meagre, except in Dorkings, of which Mr. Allen, of Black Rock, made a goodly exhibition.

Farm Implements.—These were not so numerous, nor of so great a variety as last year; nor did we see anything particularly new or worthy of record, except a flax-puller. It costs \$100, and pulls from three to five acres per day. It is said to work well. We also noticed a new stone-drill, which the inventor declared would easily drill five feet per hour.

Dairy Products.—We regret to say, that any one good farmer in Herkimer or Erie, could have made a better exhibition in his own individual dairy, than all present. We were greatly disappointed at the meagre display, for there surely must be a large amount of butter and cheese made in Auburn and its vicinity. But whether this is the case or not, these products should have been brought in from a distance. Several gentlemen were present, particularly from Canada, with the intention of purchasing largely, which of course they could not do from

so small a stock before them. We hope this matter will be remedied hereafter.

Vegetables, Fruits, and Flowers.—These were confined entirely to the products of Western New York, and were highly respectable. Mr. N. S. Smith of Buffalo, showed seven kinds of superior seedling potatoes. Several nurserymen exhibited various new kinds of seedling pears and apples, some of which we thought quite superior. The Buffalo Horticultural Society was well represented there in fruits and flowers. Its banner, got up by Mr. W. R. Coppock, was very tastefully designed. Mr. Hadfield, from Sheldon, exhibited very large and peculiarly well sorted black wild cherries. We don't know why this, and other native fruits may not be greatly improved by cultivation. Mr. Henry H. Coit, of Cleveland, Ohio, made a superb display of fruits, particularly peaches and apples.

Domestic Fabrics.—These were not so various as last year, still we found much to admire in the way of flannels, hose, bed and table spreads, and all sorts of fancy work. Among the principal contributors was Miss Voorhees, famous for a great variety of ingenious fabrics.

A Farmer's Cart.—Among other objects which attracted our attention on the ground, was a cart tastefully decorated with a tent-like covering of evergreens—making it a delightful, portable, shady arbor. This was designed, we believe, by Mrs. Sherwood; at any rate, her husband's big team of ten superb yoke of oxen were attached to it.

The Plowing Match.—This we did not see, but understood it was conducted in the usual way, and respectably attended.

The Address.—This was delivered under the great tent, on Thursday, at 3 P. M., by Samuel Stevens, Esq., of Albany, and was replete with just and noble sentiments, expressed in a happy manner. A large audience was present, and expressed themselves highly pleased with the effort. After the Address the Chairmen of the various Committees made their reports in succession, and the premiums were awarded and paid to the amount of about \$3,000.

Amount of Money Received.—The receipts for membership and tickets sold at Auburn during the Show, were about \$4,300.

The Show passed off delightfully, and seemed to afford great general satisfaction. There were numerous things got up for the edification and amusement of the public. On Wednesday night there was a large meeting at the Court-House for the discussion of agricultural subjects. On Thursday night a ball at Floral Hall, which was really one of the most select and *recherché* affairs we have seen for a long time. The walls of the Hall were tastefully festooned with evergreens and flowers, and filled with charming women and agreeable men, from various States of the Union, who seemed highly pleased with each other, and the scene around them. Then there was the circus, the museum, the razor strop man, with "one more of the same sort left," mountebanks, and other grotesque performances for the million.

The List of Premiums we shall give in our next, it having come too late for insertion in this number

European Agriculture.

REVIEWER of the *Agriculturist*, in his article page 223, seems disposed to be very severe upon me. Every man has certainly a perfect right to his opinion and private judgment, and if the mode in which he chooses to express himself appears best to him, I shall certainly not quarrel with his taste. Two things in respect to my work, however, it seems but fair to consider. First, the miscellaneous character of my subscribers; hence the great mistake I made in publishing as I went along in numbers, instead of waiting until the *Tour* was completed, which would have given me the opportunity of executing it much more maturely, and perhaps better. I should have done it, I had almost said, in half the time; but the necessity of sending it over in numbers, and in many cases before I had seen all I wished to see, has been an occasion of great delay and vexation. I think, however, my subscribers will not complain of the execution of the work so far as its appearance and typography are concerned; and all I can say in respect to its subject matter, I have done as well as I know how, and we know all that we can have of a cat. I only hope it may be the foundation for somebody else to do much better, and no one will rejoice more than I shall in everything which contributes to advance the agricultural improvement of my own country, and her substantial welfare and glory.

London, Aug. 3d, 1846. HENRY COLEMAN.

HORTICULTURAL NOTES.—No. 2.

Culture of the Grape Vine.—The first thing required in the preparation of the ground for grapes, is to ensure perfect drainage. Animal manures, a deep soil, and a sufficient extent of border, containing from 100 to 1,000 square feet, to each vine, according to the mode in which it is to be pruned, are essential to its perfection.

During the first two seasons, the vine should be trained as much as possible perpendicularly, to promote its growth. It should receive no pruning until the year in which it is designed to produce fruit. Pruning has no object before this period, and it tends to retard the growth of the roots.

Spur-pruning is most commonly practised, the short pruning more commonly recommended; neither is to be exclusively preferred; each being best in its place. In small gardens, especially in towns, where space for numerous vines is wanting, although there is ample room for training on a trellis, or side of a house, a single vine may be made to yield on the spur-pruning system, much more fruit than could be obtained by shortening it back, and depending upon new wood entirely. On the other hand, in vineyards, the shortening system saves much of the labor of training the vines in the spring, and of the summer pruning, and it distributes them more equally over the ground. But in these two systems, neither the quality nor the quantity of fruit is essentially different.

Disbudding and removing Fruit.—I am not aware that precise rules have been laid down as to the extent to which these operations should be carried. In the spur system, if more than one eye

is left, and no fruit is removed, the branches will be imperfect. I have removed all but one eye, and all but one bunch of fruit. The bunches under this treatment were all perfect, but not larger nor better than where two bunches had been left, and the vines soon began to make a new crop of fruit. The best rule I have been able to form, is to have only one eye, except on a few very vigorous stems, and to have two bunches on every stem, except a few of the weakest. If a second crop appears, I esteem it an evidence of too much pruning—of course it should be taken off. I am not able to say whether it would not be better to leave two eyes and one bunch from each, instead of growing two bunches on one stem.

The summer pruning is a matter of great importance. The theory on which I act is this. A certain amount of foliage is necessary to the elaboration of the sap by which the fruit is perfected. Each bunch is dependent upon the whole foliage of its vine, especially upon the leaves of its own branch, and most of all upon the opposite leaf; and the action of the sun upon the leaves is necessary to the perfect elaboration of the sap. I conclude, therefore, that when we remove leaves remote from the fruit, and thereby admit more sun to those on which the perfection of the fruit more immediately depends, we are doing good. Again, in the later part of the season, when the growth of the vine has become retarded, the removal of the extreme branches is not followed by the formation of new leaves, which do not attain their growth in time to benefit the fruit. The old leaves receive then all the sap—thus again we do good. On the other hand, if the shortening is made too soon, the sap goes to form new leaves, and is not elaborated in time to improve the fruit. Again, if the vine is not shortened at all, the sap is divided, part going to elaborate in the old leaves, and part to increase the growth of the young leaves. The last is lost to the crop. The most vigorous shoots are those which are trained upwards. The largest bunches are seen on vigorous shoots which hang down. The choicest bunches on my vines are on the largest young wood, made to hang down after it had got growth. If a vine could be made to grow upwards till about the 1st of August, and then to hang down with its leading shoots, it would be placed, I apprehend, in the very best condition for perfecting its fruit. On a small number of vines, I apprehend the object would be attained without much trouble. A large upright limb of a pear tree, in my grounds, was broken by the weight of its well-grown fruit. The fruit proved the best on the tree. When a branch hangs down, the flow of the sap prevents its return to the roots, and directs it from the leaves and wood to the fruit. The practice of ringing or cutting the bark in a circle around the main stem of the vine, is common in France. I have so treated the *Isabella*, with advantage to the growing crop, but as I thought to the injury of that of the next year.

An opinion is held by some that the action of the sun on the fruit is useful; on the contrary, the finest bunches will be found in the shade. My gardener treated one of my *Isabella* vines as he had been accustomed to in a former place, by shortening the bearing branches about the 15th of

July, to two eyes from the fruit. The branches got the start of those in the other vines, but they did not maintain their superiority more than three weeks, and after the middle of August, were decidedly inferior to the others, which were not stopped so short, or at all. The hanging down plan I would prefer to all others, but that it is not very practicable on a large scale, or always convenient on a small one. The laterals opposite the fruit, in contact with the fruit leaf, should not be touched, and neither stopping nor taking off any laterals should be practised until the growth or the season is on the wane.

Manures.—I have satisfied myself that stable manure used as a top-dressing in summer, is a cause of mildew, and in a less degree also in the fall, if liberally applied. Whether ashes or animal manures produce a like effect, I am not certain, but I shall abstain altogether in future from manuring in summer. What other causes of mildew there may be, I know not, but think there can be little doubt that want of air, from superabundance of foliage, is one, or perhaps too much foliage, and short stopping, may induce it by the same cause, *i. e.*, preventing a due supply of elaborated sap, the leaves in one case being cut off, in the other, the proximate leaves being excluded from the action of the sun.

I wish some of your correspondents would take up the subject of insects on out-door vines. The removal of the proximate laterals leaves the bunch without resource, if the proximate leaf is attacked (and it seems to be that which most suffers), and this is an additional reason for respecting it.

AN AMATEUR GARDENER.

GARDENING.—No. 8.

THE soil for a kitchen garden, it is obvious, is of the greatest importance, being, however, a subordinate consideration to situation, and may be changed by art, or improved as occasion may require; but not so with the situation. "The best soil for a garden is a sandy loam, not less than two feet deep, and good earth, neither of a binding nature in summer, nor retentive of rain in winter; but of such a texture, that it can be worked without difficulty, in any season of the year. If it can be done, a garden should be made on land the bottom of which is not of a springy nature." (*McPhail.*)

"In selecting ground for a garden, the plants growing naturally on the surface should be noted, as from these a pretty correct opinion may be formed of the qualities of the soil. In every garden two varieties of soil are wanted, a strong and a light one, in other words, a clayey loam, and a sandy loam; different plants require these respective kinds. For the general soil, a loam of middling quality, but partaking rather of the sandy than the clayey, is accounted best." (*Neill in Edin. Ency., Art. Hort.*)

"The soil of a garden should be two or three feet, but if deeper the better, of a mellow, pliable nature, and of a moderately dry quality; and if the ground should have an uneven surface, by no means attempt to level it, for by that unevenness, and any little difference there may be in the quality, you will have a greater variety of soil adapted to

the different crops. The best soil is a rich mellow loam, the worst, a stiff heavy clay." (*Forsyth.*)

"In the same garden there never should be wanting different soils; and where nature has been different, recourse must be had to art; inasmuch as the variety of fruits and vegetables to be cultivated requires different soils to produce them in perfection. It would be absurd, however, to imagine, that for every particular vegetable there is to be a particular soil prepared." (*Loudon.*)

It is found that a light sandy loam is the best soil for a kitchen garden. This may be formed where the predominant soil is either clay, peat, or sand. A free marl is likewise well calculated for garden culture.

As respects the exposure of a garden, authors differ; some preferring an easterly exposure, as Abercrombie and others, and some a southerly exposure, as Nicol, Switzer, and Marshall. If, however, a situation combining exposure to two or three points can be obtained, we should prefer it, as in many cases a northern aspect is desirable, as it is much cooler for some summer productions, and especially for late successive crops.

The extent of the kitchen garden must be regulated by the requirements therefrom. An acre, with wall trees, hot-beds, &c., will furnish employment for one man. It is better to have too much than too little space, as a large garden attached to a small house is no deformity.

In regard to form, almost all the authors above quoted, agree in recommending a square or oblong, but Abercrombie proposes a long octagon, by which, he says, a greater portion of the wall in the slips behind will be on an equality with the garden, as to aspect. Irregular figures are admissible, and by some are preferred even to regular geometrical ones. The area enclosed by the walls of a garden, is usually formed into compartments, commonly called quarters, borders, slips, and walks. The magnitude and number, both of compartments and borders, as well as of the walks, depend on the size of the garden, and on the taste of the designer.

"In laying out the compartments, you must be guided, in a great measure, by the form and size of the garden; but do not lay them out too small, as, in that case, a great part of the ground will be taken up with walks and borders. The best figure is a square, or oblong, when the garden is of that form; but, if not, they may be laid out in any other figure that is thought to be most convenient." (*Forsyth.*)

"The best gardens are laid out in beds four feet wide, with narrow alleys. So many alleys, no doubt, occupy a deal of room; but advantages of convenience and neatness, in enabling the workmen to clean and gather the crops, without trampling the ground, seem to compensate for the sacrifice of space." (*Neill.*)

The best seasons for forming a garden are the spring and summer; but, at all events, at whatever time the operations are begun, they should be arranged so as to be finished early in autumn, to admit of planting fruit trees and laying edges, at that season, or very early in the ensuing spring.

The cultivation of a garden includes the performance of all those things that are requisite to a reasonable and prolific production. A kitchen garden,

as well as one professedly ornamental, may and ought to be agreeable to walk in, as well as profitably cultivated. The soil must be first attended to. The ground should never lie long without stirring, for the soil of a garden should be kept in a free, sweet, and rich state, by proper digging. Free, that the roots of the plants may not be impeded in the quest of food; sweet, that the food may be wholesome; and rich, that there may be no defect of nutriment.

It is a common complaint amongst gardeners, that their grounds will not produce certain kinds of vegetables, where formerly they were raised in abundance; not that the ground is poor or hungry, but that the surface, to use familiar language, has become tired of these crops, in the same way as a field sown with the same sort of grain for a number of years in succession, ceases to produce it in perfection. To remedy this it is proposed to proceed in the following manner:—"Let the soil be from twenty-five to thirty inches deep. Take three crops (*i. e.*, use it three years) off the surface, digging it only eight or ten inches deep, afterwards trench it the whole depth of the soil, say thirty inches, by which the bottom and top are reversed, and the middle remains in the middle. Take three crops off this surface, and then trench again twenty inches deep, by which the top becomes the middle, and the middle the top. Take also three crops off this surface, and then trench thirty inches, or the whole depth of your soil, whereby that which was last the middle, and now top, becomes the bottom; and that which is now the bottom, and was the surface at first, now becomes surface again, after having rested six years. Proceed in this manner alternately; the one time trenching twenty inches deep, and the other thirty; by which means the surface will always be changed, and will rest six years, and produce three." Here, then, we have a new soil every third year, and much less manure will be required, than when the soil is shallow and cropped every year. It is not intended that the whole garden should be trenched over the same season, say only one-third or one-half, as may be convenient.

Where vacant ground is trenched, and it is intended that the land shall lie fallow any time, it is advisable in digging trenches to turn up the earth roughly in ridges; forming parallel to each trench, a single ridge of the same width, in order that the soil may be the more effectually mellowed and renovated by the weather.

Cropping is found to be of essential service, and is founded on the acknowledged fact that each sort of plants draws a somewhat different nourishment from the soil; so that after a full crop of one thing, one of another kind may often be immediately planted or sown. "Nothing tends more to relieve the soil, than a judicious succession of crops; for plants of different constitutions not only strike to different depths, and in different directions, with their roots, but the terminal fibres or feeders of the roots appear to take up separate and peculiar constituents of the soil, and to be indebted for support to some property imparted by the earth in very different degrees. The duration of the vegetable, its short or protracted existence, is a great cause of

diversity of effect as to the quantity of aliment drawn from the soil. Another mark of distinctness in constitution is the character of the root, as it may be fibrous and tender, or fibrous and woody,—or bulbous, or tuberous,—extended or compact; another, the form and magnitude of the plant, and the proportion of fibrous or ligneous substance in the stem and branches. A fourth index of a separate nature is the succulency or hardness of the leaves, and the quantity of pulpy or farinaceous matter in the parts of fructification,—as the leaves may be the edible part before the plant is matured; or the seed vessels, as in pulse, may hold the produce for the table; or the esculent part may consist of fruit, enclosing seeds. It is a rule, from which only extraordinary circumstances can warrant a departure, never to plant a new sort of perennial stool on the ground whence a plantation of the same, or a similar species, having worn itself out, has just before been removed." Crops which strike deep, and occupy the ground long, should be succeeded by plants which pierce but a little way under the surface, and soon come off, from the short duration of their life.

"The management of a garden consists in attention and application; the first should be of that wary and provident kind, as not only to do well in the present, but for the future; and the application should be of so diligent a nature, as 'never to defer that till to-morrow which may be done to-day.'" (Marshall.)

Procrastination is of serious consequence in gardening; and neglect of times and seasons is fruitful of disappointment. It will often happen, indeed, that a gardener cannot do what he would; but if he does not do what he can, he will be most justly blamed. Industry and steadiness are perhaps in no kind of life more necessary than in that of a gardener. Whole crops may be ruined by a day's neglect, and not only whole crops, but the whole produce of a year or more. Unless a man also is endowed with attention, and has well cultivated that faculty, he can never excel in anything. Without an ever-active attention, a gardener will not see what is out of order or unsightly in his garden, and of course will not correct it. Many persons are so deficient in this respect, that their knowledge is confined to the few objects with which their mode of procuring a living obliges them to be conversant. Something more than this is wanting in a gardener who would be master of his business—he should excel in point of general observation and knowledge. L. T. TARBOT.

DESTRUCTION OF WEEDS IN PAVED YARDS AND COURTS.—The growth of weeds between the stones of a pavement is often very injurious as well as unsightly. The following method of destroying them is adopted at the Mint at Paris and elsewhere, with good effect:—One hundred pounds of water, twenty pounds of quicklime, and two pounds of flour of sulphur, are to be boiled in an iron vessel. The liquor is to be allowed to settle, the clear part drawn off, and being more or less diluted, according to circumstances, is to be used for watering the alleys and pavements. The weeds will not re-appear for several years.

SUPERIOR ENGLISH PINE STRAWBERRIES.

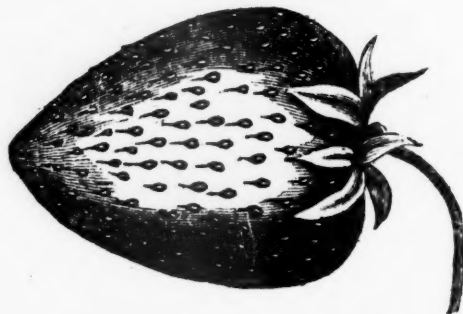
Swainstone Seedling.—A strong, fine growing plant, perfectly hardy, and better adapted to our climate than most of the English varieties. The blossoms are unusually large, and are perfect in both organs. The fruit, which is borne on very high trusses, is esteemed by all who have tasted it, to be of the very first quality, solid, juicy, and highly aromatic. I am not acquainted with any other strawberry that will compare with it in point of flavor. The berries are of a medium size, nearly uniform in shape, and never assume a cockscomb form. Mr. Downing describes the berries as averaging from three and a half to four inches in circumference. This strawberry may be considered a good bearer when under high cultivation; though my plants, which were grown in a poor soil, without much manure, bore very delicious fruit, but of less size than it would have been, had it grown under more favorable circumstances.



SWAINSTONE STRAWBERRY.—FIG. 71.

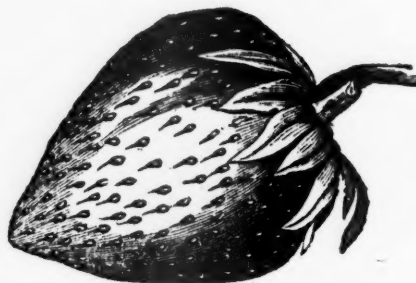
British Queen.—This magnificent strawberry, which was raised by Mr. Myatt, is now esteemed the best variety in England. Unfortunately, it is not a free grower, and is rather tender in this latitude, the old plants frequently dying off in winter. North of New York, I think Myatt's Eliza will be found to succeed better, being much more hardy, more free in its growth, and more productive, although it is smaller, but scarcely inferior in quality. The blossoms of this variety are large, beautiful, and perfect, in both organs. The receptacle is large and well formed, but is liable to injury from cold rains. About the time the plants were in blossom, the present season, there was much rainy weather, the consequence of which was, that a large portion of the flowers failed to produce fruit. This also happened to many other *staminate* varieties. The fruit, when well grown, is of the first magnitude, solid, juicy, and peculiarly rich in flavor. Considering its size and quality, it is certainly not surpassed by any other strawberry under cultivation, unless it be Turner's Pine. Of the latter variety, very little is yet known in this country;

but in England, it is esteemed only for its large size. The difference in climate may essentially change its quality here.



BRITISH QUEEN.—FIG. 72.

Princess Alice Maud.—This fine new variety was produced from Keen's Seedling, which it very closely resembles. Like its parent, it is a free grower, increasing rapidly by runners. It is one of the very earliest large-fruited kinds, being but a few days later than the Early Scarlet. On this account it must be considered one of the most valuable sorts, especially if it should prove sufficiently hardy, which there is reason to believe it will. For, some plants in my garden were unprotected last winter, which was a very severe one, without sustaining any injury, and bore very abundantly this



PRINCESS ALICE MAUD.—FIG. 73.

summer. The blossoms are more perfect in both organs than usual, the receptacle which becomes the

fruit, being large, and seldom failing to fructify. The fruit, which is quite large, has an irregular surface, often assuming a cockscomb form, is rich, and juicy, but not quite equal in flavor to Keen's Seedling. Mr. Longworth defies any horticulturist to obtain a full crop of fruit from a staminate plant bearing large berries. I think a fair average yield may be obtained from this variety.

Deptford Pine.—A new variety raised by Mr. Myatt. The plants are large, and very much resemble the Elton Pine. The fruit, also, much resembles that variety, being large, solid, juicy, and highly flavored when fully ripe, when it should only be eaten; otherwise it will be too acid. The leaves of the plant are liable to be injured by the sun, therefore it should be planted in a cool situation, screened a little from the full force of its rays. A longer time may be necessary to test this variety.



DEPTFORD PINE.—FIG. 74.

Prince Albert.—A fine growing, hardy variety, well adapted to our climate. It is a most profuse flowerer, a large plant sometimes containing from



PRINCE ALBERT.—FIG. 75.

100 to 150 blossoms, but many of them prove abortive. The fruit, which is very large and beautiful,

is generally of a long conical form, though occasionally of a cockscomb shape, of an agreeable flavor, but not equal to that of the British Queen.

The plant here described is not the one usually sold under the name of "Prince Albert," which, as far as has come under my observation, is not very hardy, and somewhat resembles the British Queen, both in habit and in appearance.

In regard to the productiveness of the above-mentioned varieties, there is some diversity of opinion. They are generally considered as shy bearers. This, however, will depend very much upon a proper selection of soil, and good cultivation. In order to succeed well, the soil must be a retentive loam, inclining to clay, rather than to sand. This should be trenched eighteen inches deep, and well enriched with good stable manure. Few persons are aware that the roots of the strawberry penetrate the earth to the depth of three feet, if the soil will permit, in search of food and moisture. Then, again, the roots must not be permitted to crowd each other. The plants should be kept at the distance of eighteen inches apart, each way—some say two feet. The runners must be cut off as soon as they appear. Some who have been accustomed to see the Early Scarlet stand thick upon the ground and bear well too, may think the distance here recommended too great. G. W. HUNTSMAN.

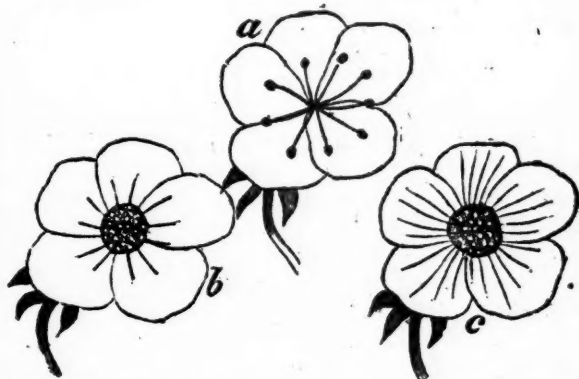
Flushing, L. I., August 1st, 1846.

ILLUSTRATION OF THE SEXES IN THE STRAWBERRY.



COMPLETE HERMAPHRODITE FLOWER.—FIG. 76.

THE central parts of a complete hermaphrodite strawberry flower consist of greenish knobs or pistils, indicated by *p* in the above figure, which are absolutely necessary to produce a fruit or berry. These are fertilized by the pollen from the anthers, *a*, on the top of the filaments, *b*. This flower having both male and female organs, will produce fruit without the influence of a staminate or male flower.



MALE, FEMALE, AND DEFECTIVE FLOWERS.—FIG. 77.

A male or staminate flower, *a*, with central organs, or pistils entirely wanting or defective, can never

produce fruit, there being frequently vestiges of incomplete or withered pistils in the centre.

A pistillate or female flower will produce fruit if impregnated by the pollen of a neighboring staminate flower, *but not otherwise*, as the male organs are entirely *absent*, as in figure, *c*, or *defective*, as in *b*, where the filaments have no anthers on their extremities, and therefore have no pollen to impregnate the pistils.

Mr. Jackson's exhibition of strawberries before the Horticultural Society of Cincinnati, mentioned on the first page of the American Agriculturist for July, induces me to write to you upon the same subject.

When Mr. N. Longworth, a gentleman of accurate observation and sound judgment, directed the public attention to the *sexual* differences in strawberry plants, some years ago, for the benefit of those who would make productive plantations of that delightful fruit, he was sneered at by those superficial botanists whose knowledge of the vegetable kingdom was derived exclusively from books, and consisted of generalities ill applied, and not limited or enlarged by actual observation. The operations of nature, and the modifications of them, caused by climate, cultivation, and the amalgamation of species, were unknown to them. They had read that the genus *Fragaria* is an Icosandria of the Polygynia order, having a calyx and corolla surrounding its stamens and pistils, and therefore forming a perfect and complete flower, hermaphrodite of course. All such could perfect their fruit without foreign aid, as in their estimation Mr. Longworth was an *ignoramus*. But he had seen, and examined, and cultivated, and eaten, as fine strawberries as ever grew. He had seen in the cultivated varieties some flowers with stamens and pistils, others with stamens only, never bearing fruit, and which never can till a man bears a child; and others with pistils only found to bear fruit, but as incapable of it without the fertilizing influence of the pollen from a staminate flower, as any other female in her virgin state. I do not know whether Mr. Longworth cared one straw for the Theory of Vegetable Transformation which originated with Linnæus, but was almost entirely neglected till Goethe, the poet, naturalist, and philosopher, explained the Metamorphoses of Plants in the year 1790, in his "Versuch über die Metamorphose der Pflanzen." But Mr. Longworth saw with his own eyes the facts, and he is a practical man, who knows that

"Facts are things that dinna lie,
And canna be disputed."

By the way, the latter proposition of this distich is not true. Facts are every day disputed. Mr. Longworth's *de jure* and *de facto* facts have been disbelieved and disputed too, but only by those who have not observed. This spring I examined a number of blossoms of the strawberry plant, at the request of a gentleman in Frankfort, and verified Mr. Longworth's observations. I found all the three kinds of flowers in great abundance. Whether all the flowers in their wild uncultivated state are complete hermaphrodite flowers or not, I cannot say, but that in their cultivated state many of

them cease to be so is certainly true; and those who heed not Mr. Longworth's advice in forming plantations, if they obtain fruit at all, will be indebted to chance for it, whereas, if they follow his advice, proper cultivation will insure good crops of fruit. The cultivator should select for planting the hermaphrodite and pistillate flowers, with only a few of the staminate flowers to fertilize those which are pistillate only, and these should be intermixed with the former.

JOHN LEWIS.

Llangollen, Ky., July 13, 1846.

DOMESTIC FISH-PONDS.—No. 5.

Management, &c.—With proper management, in many cases, the fish will scarcely require feeding, as the pond itself will furnish food. But if the fish seem unhealthy, or appear to want food, they may be fed with earth-worms, grasshoppers, steeped grain, peas, offals of poultry, boiled potatoes, Indian meal, crumbs of bread, &c. The food should be given morning and evening at a stated time, and always at the same part of the pond. A portion of the margin of the pond may be covered with aquatic plants, on which vast numbers of insects, snails, &c., will be produced, which will serve as a delicious morsel for the fish. In Europe, there are two weeds in particular, which are encouraged to grow, namely, the broad-leaved pond weed (*Potamogeton natans*), sometimes also called *tench weed*, and the water crow-foot (*Ranunculus aquatilis*); on both of these weeds carp and tench deposit their spawn. In rainy seasons, it is desirable to allow the ponds to fill to their utmost limits, as by this method food is brought from the adjacent grounds; and when the water is let off again, a luxuriant and tender grass is produced at the borders, peculiarly adapted for the food of carp. When the pond is too full, the water should be let off by the sluice into the second pond, and so on to the third, and then be suffered to run to waste. By this method, the water of all the ponds is freshened, and much food is secured by the fishes.

Care must be taken in frosty weather to break the ice around the edge of the pond, or the fish will perish for the want of air; for, fishes cannot subsist, any more than terrestrial animals, without an absorption of oxygen. When the connection of the water with the external air is cut off by a solid crust of ice, it is highly probable that sooner or later the water will part with no more of its oxygen. This conclusion is drawn from the fact, that fishes in a bowl of water beneath an exhausted receiver, soon die, although the water still contains much oxygen, or it would no longer be water, but hydrogen gas. To obviate this difficulty, it has been recommended to drive pipes of metal or wood into the bottom of the ponds, with the upper end of each pipe rising above the water, and with one or more side openings to the tubes below the surface, in order to allow the air to pass down, and afford the fishes a fresh supply, while the rest of the surface is covered with ice.

At certain seasons, the ponds are fished, by drawing off the greater part of the water and transferring the best of the fish into small *stew-ponds*, situated in the garden or some other convenient place. These may be three in number, each about

twenty-four feet long and twelve feet broad, in which the fish may be kept until wanted for the table or for the market.

Walton recommends that the pond be cleared once in every three or four years, by letting off the water and allowing it to remain dry during some months. This will kill water-weeds, and encourage the growth of grass. He even advises the sowing of oats in the bottom after the water has dried off. Bushes and reeds should be pulled up, but the mud must not be removed. Enough water should be left in and about the sluice, to sustain the fish necessary to re-stock the pond.

Boccus says that in England the ponds being neglected, the fish are muddy, earthy, or weedy, and hence they are not esteemed; but if properly attended to, the fish will not only prove fat, but of far superior flavor to those taken from common and ill-regulated ponds and stews. He also insinuates that much is to be learned respecting the modes of cooking fresh-water fish. As soon as killed and cleaned, they should be well rubbed, within and without, with salt, to extract the watery particles. They should then be allowed to remain so for some time, before they are cooked, when they should be well washed out with pure cold water, wiped thoroughly dry with a clean cloth, and afterwards cooked by an approved mode. D'JAY BROWNE.

New York, Sept. 10, 1846.

TREES AND PLANTS TO WITHSTAND THE SEA-AIR.

WILL Mr. Browne or some other correspondent inform me what ornamental trees and plants will grow, without injury, in the immediate vicinity of the sea? A SUMMER RESIDENT OF EAST JERSEY.

In consulting Mr. Browne on this subject, he has furnished us with the following list:—

TREES AND SHRUBS.

American sycamore, (*Platanus occidentalis*.)
Norway maple, (*Acer platanoides*.)
European sycamore, (*Acer pseudo-platanus*.)
Sea buckthorn, (*Hippophae rhamnoides*.)
Willow-leaved buckthorn, (*Hippophae salicifolia*.)
White pine, (*Pinus strobus*.)
Cembrian pine, (*Pinus cembra*.)
Stone pine, (*Pinus pinea*.)
White beam-tree, (*Pyrus aria*.)
Japanese quince, (*Pyrus japonica*.)
Beach plum, (*Prunus maritima*.)
Scorpion senna coronilla, (*Coronilla emerus*.)
Beautiful Leycesteria, (*Leycesteria formosa*.)
French tamarisk, (*Tamarix gallica*.)
German tamarisk, (*Myricaria germanica*.)
Willow-leaved spiræa, (*Spiræa salicifolia*.)
Bloody-flowered colutea, (*Colutea cruenta*.)
Racemosed-flowered elder, (*Sambucus racemosa*.)

HERBACEOUS PLANTS.

Broad-leaved statice, (*Statice latifolia*.)
Tartarian statice, (*Statice tatarica*.)
Heart-leaved hydrangea, (*Saxifraga cordata*.)
Rough-leaved saxifraga, (*Saxifraga crassifolia*.)
Evergreen iberis, (*Iberis sempervirens*.)

HEREFORDS.—No. 3.

AFTER a long pause, I resume my articles on the Herefords. The delay from the last number to this time has arisen partly from my own inattention and partly from the neglect of my friend Sotham, to furnish me certain information.

While he was inattentive to his own interest, and I to the continuation of the series, I began a correspondence with several persons in England, with a view to obtain information as to Herefords, from the breeders of Herefords. I sought to possess a knowledge of the herds of several of the distinguished breeders. To some of my letters no answers have been returned.

I had hoped to give to the public full particulars of the herds of Mr. Price, of Worcestershire, and the late Mr. Tompkins, as continued by his daughters, Westcar, the Seignors, &c. Unfortunately, Mr. Price was dead, and no one could give me the desired intelligence. Of the Misses Tompkins I learned one or both were dead, and that the herd, left by their father, had been for a while continued to be bred by them, but had at length been sold at high prices, and dispersed. Mr. Price had been a breeder for sixty years, and his father before him. Mr. Tompkins died about 1817, an aged man, and had bred Herefords for fifty years before his death. Mr. Price had a reputation *all over* England as a breeder, while yet both the Collings were known only *provincially*; and had shown wonderful oxen long before the Durham Ox of Mr C. Colling and the White Heifer of Mr. R. Colling were exhibited, and had called attention to the Short-Horns. This was at the period of the breeding of the two Collings. In their day, the Short-Horns were confined to the North of England, while the Herefords, as the great grazing and beef animals, occupied the whole of the South and Middle of England, almost exclusively, and had penetrated the North, in some measure, even to the borders of Scotland. Among the first of breeders of Herefords he was known wherever they were bred, and bulls from his herd were annually let at high prices to breeders in every part of England. But, unfortunately for him, he did not claim to have created the Herefords, and no one did it for him. He was only perpetuating and improving them.

While the Short-Horns had historians to trumpet their excellence to the world, and the papers were, through interested parties, heralding the sales of Charles and Robert Colling, nobody wrote of the Herefords; no paper spoke of the annual letting of bulls at enormous prices, by such Hereford breeders as Price and Tompkins, and the great sale of Mr. Tompkins (about the period of that of the Messrs. Colling) never was published in any public journal. And why was all this? The Herefords were so widely spread, and so generally known and appreciated for their great capacities, that no one felt it was necessary to tell the world these facts. As demand outwent production, their breeders did not feel that it was necessary to sound their own praises, and inform the world of the merits of their cattle. The result was, that when the breeders of Short-Horns came into the field of history with their animals, they alone were in possession of it.

Of these historians, first in the series, came the late George Culley, of Grindon, Northumberland, who, in 1784, published a book on Cattle. He was a Short-Horn-breeder (and that of distinction, twenty years before either Colling commenced), and the Herefords fare badly in his hands. Next followed Bailey, of Durham; and then in the succession of time, the Rev. Henry Berry; and, finally, Youatt, *who merely re-produced the account of Berry, re-written by Berry*. All these men were the open advocates of the Short-Horns, and two, Culley and Berry, breeders of them. Is it wonderful, then, that in America we should have erroneous opinions respecting them? In the only histories we have of them, written by interested parties, they are decried by interest, and that of the keenest kind,—a rival interest.

Here we have never heard of the great number of Hereford breeders, equal in skill and success to Price (father and son) and Tompkins. Who ever, among us, heard of Westcar and the two Seignors, and I might add a host of equal reputation? And yet these men, for an age almost, held sway, and *uninterrupted sway*, at the Smithfield Christmas Cattle Shows; and have been succeeded by others equally unknown, who now carry away eight out of every ten of the prizes offered by the Smithfield Club. And still the Herefords are merely the tenant farmer's cattle, and only in one instance have they found a titled patron, the Earl of Warwick; while the Short-Horns are the gentleman's cattle, and Dukes, Marquises, Earls, Viscounts, Barons, Baronets, Gentlemen and Tenant Farmers, are the breeders and feeders of the Short-Horns. Against the Herefords are wealth and rank, and only in the hands of wealth and rank have the Short-Horns been able to beat the Herefords, when shown at Smithfield. How many prizes have been won at Smithfield by tenant farmers, with Short-Horns? None. Earl Spencer and Sir Charles Tempest have won. Can any man in America say he has ever heard of prizes carried by Short-Horns fed and shown by untitled men? Can all this mean nothing? Surely no. Wealth can do almost anything. It can unprofitably feed and show a Short-Horn, and win the prize against a profitably fed Hereford. But this it will rarely do, and the result is, that rarely do the Short-Horns beat the Herefords at Smithfield, and this is the only field of any distinction where they meet in common, and on equal terms.

I mean this as a sort of preface to a criticism upon the histories of Culley, Bailey, Berry, and Youatt. The two last are regarded as authority as to cattle in America, and by a certain party, Youatt is looked upon with veneration. As to Berry, I think Mr. Lewis F. Allen, in his lately published (and capital) book, the History of the Short-Horns, has entirely demolished him as authority on Short-Horns; and I shall endeavor to show that he is not entitled to regard as authority on Herefords.

Mr. Youatt did not even write the various accounts which he published, and is not regarded in England by breeders of any of the approved races of cattle, the Short-Horns, Herefords, Devons, &c., as entitled to the least consideration. I feel that it is necessary to make a clear field before I proceed to attempt to

make good my original position. This I shall do, because of the reason that my views and opinions have been harshly assailed, and against me, in conversation, I have had quoted Youatt and Berry as authority, as if they were the only people in the world who ever did, or could, know anything of Short-Horns and Herefords.

By the issue I will abide, trusting at some not distant day, to see the Herefords scattered all over those regions of our country which grow beef and travel it on the hoof to market. In such regions the Short-Horn can never beat the Hereford.

Let me not be misunderstood. I am the advocate of Short-Horns; the best cattle I ever saw were Short-Horns, bulls cows and oxen. But the Short-Horns are far from an even race of cattle. The worst cattle I have ever seen were Short-Horns. Not so are the Herefords; they are very even in quality, and are far superior to ordinary Short-Horns in everything, and are superior as travelling and working beasts to any Short-Horns.

A. S.

REPLY TO QUERIES ON BUTTER-MAKING

I HEREWITH reply to the queries on butter-making, which appeared page 252, August No. of the Agriculturist.

Let the cows be milked early in the morning, before the flies trouble them, and as late as possible in the evening—for the same reason.

Let the milk be *immediately* strained into pans, which have been previously filled to the depth of *half an inch*, with *fresh cool spring water*.

Skim off the cream while the milk is sweet.

Keep the *cream cool*, and churn it while it is *sweet*. I prefer *stone churns*, they being more easily kept clean and *sweet*—this is all important. Great care must be taken to keep the *milk pans sweet*.

A teaspoonful of saleratus to a gallon of cream is sometimes an assistance when the butter does not come readily—a little salt may also be used—but these are not certain remedies. The surest way is to keep your cream in an ice-house in warm weather.

Sour milk, we find, will not produce so much nor so good butter as *fresh milk*.

We churn our cream at a temperature of about 60°—cooling the churn by pouring into it, during the *churning*—say three times—a little cold water.

The *steadier* the churning, the sooner the butter will come—say from 15 to 30 minutes.

We always churn our cream—never the milk.

The above is the result of three years' careful experiments, and may, I hope, be of service to the inexperienced.

For want of a better, a *stone pot* may be converted into a churn in 15 minutes, by any true farmer—as *all such* understand the use of tools.

Setauket, September, 1846.

A. H.

PLANTING TREES.—The Spaniards are infinitely more careful than other nations in planting trees; for it rarely happens, when a Spaniard eats fruit in a wood or in an open country, that he does not set in the ground the pips or stones; and hence in the whole of their country, a vast number of fruit-trees of all kinds are to be found.

DEVELOPMENT OF BUDS IN CORN.

WHILE recently conversing with an observing and experienced farmer upon the laws of development in the kingdom of nature, I mentioned a demonstration which I had observed, and used before the Senior Class in our Institute, in my course on Vegetable Physiology. The facts were new to him, and supposing them so to farmers generally, he requested their publication.

As I have so often promised our mutual friend, Mr. S. Wait, Jr., to furnish something for your columns, I have concluded to send you the extract from my manuscript. The particular topic of the lecture was the "Formation and Development of Buds."

"You will observe, gentlemen, that this stalk (a stalk of sugar corn from my garden, about in the bunch, as they say at the South, dissected longitudinally) has twelve leaves or blades. At each axil of the seven lower blades, you perceive a bud cut through its longest axil. The white line in the centre, with the indented line on either side, is the pith of the cob; those delicate silky filaments passing from each re-entering of the indented line, are the styles or silk, exterior to these are manifest the blades of the husk. . . .

"I would call your attention to the fact visible before us, that of the seven buds upon this stalk the lowest is at this period most developed. Did you ever see seven ears of corn upon one stalk? I did, once; it was several years since, in a garden upon the eastern shore of Maryland, the white dog-toothed corn. It grew alone. . . . Next autumn when corn is ripe, you will find this present manifest order of development reversed. Those stalks which perfect any of these buds into full ears, will perfect the top ones. Then you will find the degree of development decrease as regularly downward as it does now upward. This lowest bud, now the largest, will probably be found to have made no advance—the next a small one—the next an increase upon that, and thus to the perfect ear. Should you find a stalk with no manifestation of sets, an examination will exhibit every bud, and with the same relative degrees of development, though each less advanced than when the top bud is perfected.

"The formation of the buds always takes place if the leaves are developed. The order of early and later development, though reversed in regard to each other, is in all my observations the same. I speak of corn as usually cultivated. The degree of development depends upon variable circumstances, and is consequently variable. The number of buds depends upon the variety; some varieties forming more, some less. This sugar corn, you perceive, has seven; our varieties of field corn vary from five to seven buds. Our modes of cultivation perfect from one to two, sometimes three, and occasionally four, very rarely five."

Since copying for you the above extracts, I have examined the Peruvian corn, the seed of which I received through your kindness last spring. It has nineteen leaves, and has formed ten buds, though none are perfected.

If the facts mentioned above have before been noticed in your paper you will of course know how

to dispose of them. If not, you will fully appreciate their value. The practical reasonings from them belong to another lecture, which I may, at some time, present to you. Light, or rather want of light, doubtless has much to do in reversing the order of development.

J. DARRACH.

Walden, Orange Co., N.Y., Sept. 8, 1846.

DIRECTIONS FOR MAKING PLASTER-CASTS OF FRUIT.

PROCCURE a square box large enough to admit the fruit, and leave a space of at least half an inch on every side; divide this box into two equal parts by a horizontal section, and fit the parts together with pins, in order that it may be taken apart and put together again in the same position with facility; fit a tight bottom to one half, and having made a composition by melting together two parts of beeswax and one part of rosin, fill the half box having the bottom with it, nearly to the brim, and when nearly cold, sink the fruit into it to its greatest diameter, and hold it steadily there until the composition is hard enough to bear its weight; the fruit should first be prepared by covering it with a thin coat of oil that it may slip readily from the mould—and if of a kind having cavities at the ends, as the apple or pear, a hole should be made through it from the blossom to the stem, to allow the air to escape when pressed into the wax. When the composition is hard in the lower box, grease the surface around the fruit to prevent its adhering to the wax of the upper half of the mould—place on the upper half the box, and pour in the composition until the fruit is covered; a plug should be placed between the boxes in such a manner as to form, when taken out, an opening into the mould; when all is perfectly cold, the boxes may be separated, and the fruit and plug taken out; cover the inside with a slight coat of grease rubbed on with the finger; place the boxes together again in their proper position, and the mould is finished. Mix now sufficient well calcined plaster with water, to about the consistency of thick cream, to fill the mould, and pour in immediately; and in a few moments the plaster will be set, and may be taken out.

Before painting, it is well to give the cast one or two coats of copal varnish. Oil colors should be used, they stand the weather better.

The greatest difficulty I have found in making a perfect cast is in getting it free from the little bubbles of air that remain in the plaster and settle on its surface; to prevent this, shake the mould while the plaster is "settling."

Care should be taken to place the fruit in the box in such a position as will allow it to "draw;" the division of the mould must be exactly at the greatest diameter of the fruit. The mould may be taken with plaster in the same manner as with wax, in which case it is necessary to varnish it before using.

The stem of the fruit that is cast, should be preserved and put in the cast; it adds greatly to the appearance, and is sometimes characteristic of the variety.

If there is anything peculiar about the flesh or core, the cast may be cut in halves and painted to represent the inside.—*Ohio Cultivator*.

MANAGEMENT OF HONEY-BEES.—No. 4.

THE only covering or roofing necessary for hives placed as before described, is a couple of boards, say 15 inches wide, fastened together with stout leather hinges, and placed upon the top of the hives, with a small block of wood upon each hive, in order to raise the centre of the boards, and give a descent to the sides, to carry off water. Previous to strapping the boards together, they should be secured from warping by cleats upon the upper sides, fastened with wrought nails. When there are several hives to cover, it is best to divide the roof into strips of six feet long, or half the length of ordinary boards, for the greater convenience of removing them, which, at certain seasons, is necessary to do, in order to remove hives from one station to another—a very important matter—as will be shown hereafter. This roofing may be secured from removal by heavyweights, by cords attached to the sides, and secured to the posts that support the hives. The question may be asked why it is necessary to have any roof at all. A roof of about 2½ to 3 feet wide, is important for various reasons. In the first place, to protect the hives from natural decay. Secondly, it affords protection to the bees when they cluster out largely, as they will take to the inner sides of the hives, and thus be secure in almost any storm. Thirdly, it protects the supers from the melting rays of the sun, which would endanger the combs. I once found the honey running in a stream from the bottom board of one of my hives, and on examination I found the combs in the super melted down flat, from the effects of a June sun, in a case in which I had omitted to cover the hive. Even the old combs below would be in danger of melting, without any roof; but this kind of roof will shade the hives half-way down to the bottom, which is sufficient. In the spring of the year, let the roof be removed back, so as to present the entire front of the hives to the sun, as it helps generate the necessary heat within to bring forward the young brood. As the season advances, say about the first of June, then let the roof be brought forward to the centre, if fronting the east, and somewhat past the centre, if fronting the south, in order to give the bees the greater shade.

I consider this kind of bee-stand as the most economical, and, at the same time, the best adapted to the natural requirement of bees. It allows the hives to be *suspended*, instead of resting upon a shelf or board at the bottom, and permits the bottom-board to be suspended also, with small wire hooks, the importance of which has already been spoken of. It gives a free circulation of air around the hives, and affords as little shelter to the insects as possible; and when they do get a footing, one has an easy opportunity to dislodge them. When made with care, with posts planed and painted, its appearance is not bad, but rough posts and rough boards for a roof, with a good coat of whitewash, will answer the purpose very well.

The *situation* of the bee-stand will next claim our attention. The reader will, as a matter of course, say, "it should front the south," because he has always *seen* them so. I admit that we generally see them so, and we also see the hive housed up in the warmest possible situation in the winter season, where not a breath of air can reach them,

except from the south, and we find such situations calculated to decoy out the bees in the dead of winter, when the sun shines clear! But do these bees ever *return*? Look upon the snow around your bee-stands—that will answer the question. I have often seen the old women, and even men, picking up the torpid bees in pans, and endeavoring to warm them into life; and if they should be restored to the hives, perhaps the next day they would be found in the same condition. These people had not sense enough to know, that by beating out the backs and ends of their bee-houses, the bees would stay at home! Well, my dear reader, if you have always seen bee-houses face the south, I do not care, I shall front mine to the east. There were upon a time two certain husbandmen living near each other; the one allowed his hired hands to sleep till the sun had reached a considerable altitude—and it was remarked how little he performed during the season. The other called forth his hired men as soon as the dawn of day would admit, and people were astonished at the quantity of produce gathered into his barns! Now, the result of two stocks of bees, the one facing the east, and the other the south, may not be dissimilar. The bees facing the south wait for the morning sun to throw his rays upon their place of egress, before they will venture forth, which is some two hours later than upon the hives facing the east. Then you will see the bees of the one at work long before the bees of the other think of sallying forth, and the result of their labors, when the honey-season is past, may not be disproportionate to the result of the labors of the two husbandmen. This difference of the bees departing to the fields in the morning, is the most perceptible in the months of May and June. When the heat of summer approaches, there is not so much difference, from the fact, that the bees find the temperature, at any time, suited to their wants. When there is but a single hive suspended on my plan, with the bottom-board hung so as to admit ingress and egress from all sides, it does not matter how it fronts; but when there is a tier of hives, they should face the east, as the easterly end hive would only be rightly placed if all should face the south. The bee-stand must either face the south or the east. It will do well to front the south, but better to front the east; and in either of these positions, it should be exposed to the full force of the sun. In the spring it is very important, but not so much so in the summer. Avoid the shade of trees, for the drippings retard the bees in sallying forth after showers. Let your location be one without shelter from any quarter, and particularly where the winter winds will have a fair chance to sweep among the hives, for by this means the bees are kept at home, where they belong in the winter season. I do not advocate a change of situation for hives in winter, as some do. It is attended with too much trouble where there are many hives, and a good winter location is a good summer location, and *vice versa*. If your dwelling stands very near to the banks of a river, pond, or lake, place the stands as far from the water as possible, as the bees are liable to be forced down into the water, by high winds, while they are returning home heavily laden. T. B. MINER.

Ravenswood, L. 1., Sept. 16th, 1846.

COMPARATIVE VIEW OF THE COTTON CROP.

A GREAT many readers of yours will run over your news of the "Last Year's Cotton Crop," without giving an examination, and will thus be influenced—may be, it will have considerable effect in our market. I presume that none but the bigoted will hesitate to admit, that the cotton crop has more influence on the welfare, or probably on the prosperity of America, than that of any other—always premising that we had our "daily bread;" therefore, the correction of any unfavorable impression would be of more or less advantage. But to the matter in hand.

By the Report of the Board of Trade, it is proved that, in 1845, 1,069,320 cwt. of cotton were imported into Great Britain; during the present year, 1,019,738 cwt. The difference in weight is thus reduced to a trifle less than 50,000 cwt., or above 15,000 bales. In other words, the falling off in *weight* this year, as compared with last year, is over 4 per cent., but the falling off in the number of bags above 26 per cent! The inference then drawn, is that there is no faith in the shortness of the crop, and that prices cannot improve.

I have seen the remark made—"deliver us from our friends,"—and well may the cotton region repeat it, when alluding to our Northern friends. I am very willing to admit that we have often erred in our estimates, but I deny the inference, that we intended to deceive. The cotton crop is more difficult to estimate until gathered, than any other grown, so much depends on the season and the lateness of frost. We have been so sanguine at times of a shortness of the crop, and desiring to have an *honest* advantage of the fact, that we have prematurely judged; the season proving more favorable has made our estimates fail. I may not know myself, nor may I know others, but I believe, nevertheless, that a more magnanimous and honest people than the cotton planters do not exist this side of heaven, and I would tell my own dear parents that they spoke hastily at least—if they would say that we made false statements for money. To say to you precisely my opinion of this estimating,—I do not believe there is any man who can tell within 100 lbs. per hand, what I will make, scarcely one year out of ten, on the 1st day of August, and that he will frequently fail one bale, and just as apt as not full 100 lbs. per acre, of seed cotton. In alluding above to our Northern friends, I mean to say that they generally give publicity to the largest estimates, and some insist that they know best.

The estimates above are truly, I suppose, from foreign data, but the data are so glaringly absurd that any one ought to detect the error.

Agreeably to information received from a cotton merchant in New Orleans, J. A. Ruff, I am able to show that the falling off in receipts in the United States, up to August 1, was 361,745 bales; I would like to see how this deficit is made up in Great Britain. The quantity you state as being imported into Great Britain in 1845, 1,069,320 cwt., if multiplied by 112 lbs. in a cwt., will give 119,763,840 lbs. ONLY, and the receipts in 1846, 1,019,738 cwt., or 114,210,656 lbs.

If the first number be divided by 350, which is

considered as an average weight of bales, we would find the receipts in Great Britain as 342,182 bales—about enough for 12 or 13 weeks' consumption.

George Holt & Co., cotton brokers in Liverpool, under date Dec. 31, 1845, give as import of 1845, 1,855,700 bales. See Commissioner of Patents' report, pages 795 and 797.

The amount received in 1844 and '45.

In New Orleans, -	945,203
In Mobile, -	515,052
In Savannah, -	298,936
In Charleston, -	416,431
In Florida, -	184,288
In Virginia, -	21,200
In North Carolina, -	12,080

Total,	2,393,190
Crop in 1845-'46	2,026,848

Decrease to July 28, 366,342 bales.

Amount received in 1845 and '46, up to July 28.

In New Orleans, -	1,033,737
In Mobile, -	420,162
In Savannah, -	176,370
In Charleston, -	240,456
In Florida, -	131,867
In Virginia, -	12,125
In North Carolina, -	9,131
	2,023,848

Later dates up to August 1, give me—

The export to Great Britain

last year, at -	1,428,935 bales.
To date this year, -	1,053,353

Decrease, 375,582 bales.

Export to France last year was	345,330
To date this year, -	339,271

Decrease, 6,059

To other ports last year, -	280,489
To date this year, -	181,094

Decrease, 99,395

Total exports to foreign ports

last year, -	2,054,754
To date this year, -	1,573,718

Decrease, 481,036 bales.

Add to this a decrease in Northern ports this year of -	17,450
And we have a decrease of exports in toto, of -	498,486

Now, sir, you see at once that your data are too erroneous to be any criterion, and that we must rely on the receipts and exports according to the U. S. accounts—which will place the crop without much doubt on the 1st of September, that being the usual date at which the year closes, at full 500,000 bales short, which, added to the decreasing stock on hand, will and must leave the stock at less than 700,000 bales, supposing the consumption to continue in '46, as in '45, at over

29,000 bales per week. As to weight of bales, it is impossible that the increase in weight of bales can make up the deficit between the apparent decrease of 26 per cent., and the real one of 4 per cent., and I believe it is a mere catchpenny manoeuvre. Consider, the bales of the southwest average about 420 lbs., and those of Carolina about 330; add to these even 25 per cent., and we have Mississippi bales at 525 lbs., an increase that never occurred in one year even on one plantation; and I venture that the difference in weight has not varied 20 lbs. for 15 years, if we take out the advance made on cotton per bale, by banks. I mean to say, that the present average weight of bales has not been 10 lbs. less or 10 lbs. more for any one year, in 15 years, except the banking years. And I say further, that a jury of twelve men selected from the cotton states, or from the cotton-receiving cities, would say the difference in weight has not been over 20 lbs., if that, for the past five years. And why should it be? Freights have not advanced, our presses are not more powerful, nor is our cotton easier compressed—and a majority of us could not press 500 lb. bales without a greater loss of time and labor than would be compensated by the little saving. That the shortness of crop admits now of no possible doubt, I am well convinced, and I believe it exceeds the apparent difference. Why, say you. Because I know of some planters who held on to a part, or the whole of 1844 crop, hoping better prices, and that the improvement in 1845 caused them to send it forward, which was added to the '45 crop, but of course it does not affect the quantity received. If you will refer to page 279 of the Report of the Commissioner of Patents, you will see that I estimated a probable decrease of 300,000 bales, on the 5th of last September.

The matter now that presses forward—"what hopes have we in an advance?" I believe we may hope for it, not only on account of the certain vast reduction of stock that must be on hand, January, 1847, but from the prospect of this crop. I am aware that new cotton has gone forward already, a few bales, and I believe it will injure the U. S. to hundreds of thousands of dollars, because the fact of cotton going into market before the 8th of August, is too strong proof of the forwardness of the crop, for the opinions of all planters to the contrary, to show the truth. Notwithstanding this, and that I will have no credence, I assure you that the crop, so far as I see, or can hear, is from two weeks to one month later than the last crop. I have seen many large fields, have conversed with a large number of planters, and the information is—"two weeks later," "three weeks later," "I believe about one month later" than last year's crop. In my immediate vicinity, there are five families belonging to our connexion, of which I am one, and I know we were picking cotton at this date last year, whereas I can see no prospect of being three weeks hence where we were at this date. As to myself, my cotton book, kept accurately for 15 years, will show that on the 15th of August, 1845, I gathered an average of 160 lbs. per hand, and that I began to pick on the 4th of August. This year I have not seen an open bowl, and have not yet stopped my team or my hoes, a thing that never occurred before. My neighbors are generally in

the same fix, or if not, the grass in cotton fields shows they ought to be. The thing is certain—it is impossible for Mississippi with her mammoth load of 550,000 bales, to get it into market as early as last year; and though she may make the crop, yet, with an ordinary season, much of it must be a total loss. Again, all cotton planters know, that a seasonable, rainy year, is not favorable for a large crop, and that a crop in the grass from May to August, cannot mature as early, nor make so much, and that large, pretty cotton, is always deceptive.

I therefore conclude—the crop of '46 is more dependent on the latter part of this season than any I ever saw; that an early frost, with these constant rains, will cut the crop under two millions of bales; and if the fall be very late and favorable, that we make the largest one that ever was made—but the fall must be very late, because there is not a crop of early fruit, nor a fair show for a middling one; our dependence then is for a late crop of fruit. I would not be at all surprised if our crop dropped under two millions, which, with peace with Mexico, and no more experiments by the Government of these U. S., will bring forward the most thrifty times we have seen for ten years. M. W. PHILIPS.

Edward's Dépôt, Miss., Aug. 9th, 1846.

DISEASES OF FOWLS.

A CORRESPONDENT in your journal (p. 241, current volume), who signs his name S., has thought proper to condemn my mode of curing fowls by a surgical operation. He says he has opened the crops of many hens, but never saved one. His *modus operandi* must have been wrong; for, from its simplicity, a child with a common pen-knife, could perform the operation. S. comes to the conclusion that, had I given my fowls plenty of lime and gravel, the case would not have happened. Now I contend that my fowls had plenty of lime, gravel, and fresh water. Consequently, it could not have been that your correspondent intended to lead your readers to believe that my fowls had none, and had become crop-bound. Furthermore, he says that he doubts whether any fowl would swallow anything liable to obstruct the passage of the stomach. If any one has any doubt of this, I can only affirm that the most apt thing that hens are liable to swallow, is dead particles of grass, which become matted, and create a stoppage.

In conclusion, I would merely say, provide your hens with proper food—lime, charcoal, gravel, and fresh water; and if they get crop-bound, resort to the knife, as directed on page 142 of this volume.

Keyport, N. J., Sept. 5th, 1846. H. T. LLOYD.

ATMOSPHERE NEAR THE SEA.—From various experiments made by the savans of Europe, it has been ascertained that the atmosphere over the sea contains less carbonic acid than that over the land; that, when the sea is rough, and especially when the wind is violent, particles of sea-water, in a state of great tenuity, float in the air, particularly on the coast where the waves break; and that these particles are carried to greater or less distances, according to the violence of the wind, and the degree to which the sea is agitated. Hence the influence of sea-air upon the soil and vegetation in places near the sea.

Ladies' Department.

DOMESTIC EDUCATION OF CATS.

It has not been ascertained at what period cats were first classed among domestic animals; but as this is of little consequence, I will endeavor to give some account of them from the time that their useful and amusing qualities brought them into general notice, as forming a part of our household comforts. The finest species of domestic cats are those called Angora, which are remarkable for size and strength of body, elegance of the head, softness of hair, and docile qualities, which rank them precedent as domestic cats. Every country has its peculiar species;—that of Tobolski is red; that of the Cape of Good Hope blue; and those of China and Japan have pendent ears; Pallas informs us, that in Russia the muzzle is small and pointed, and the tail six times as long as the body.

At all times, cats have acquired some influence, indeed, may be considered favorites with women. There were very severe laws enacted in Egypt against those who killed or even ill-treated this animal. They carried their notions so far as to be quite ridiculous; for they actually worshipped them as their gods, made great lamentations at their death, and buried them (according to Herodotus) with much pomp. In China, this animal is indulged with a bed of down and silk, where it remains in a state of indolence, or lies at the feet of its mistress on a sofa, covered over like a child, decorated with a silver collar on its throat, and its ears adorned with ear-rings of jasper or sapphire. The Turks have places made or rented for them, that they may be fed and attended to by servants engaged for the purpose. They enjoy a still happier life in France; as faithful companions to their mistresses, they not only amuse them, but, by their gentleness and playful tricks, dispel ennui. They seldom look you in the face, but obliquely.

I have remarked that naturalists have not spoken much in favor of this animal, particularly Buffon, who says, "that the cat may be considered as a faithless friend, brought under human protection to oppose a still more insidious enemy. It is, in fact, the only animal of this tribe whose service can more than recompense the trouble of education, and whose strength is not sufficient to make its anger formidable. Of all animals, when young, there is none more prettily playful than the kitten; but it appears to change this disposition as it grows old, and the innate treachery of its kind begins to show itself. From being naturally ravenous, education teaches it to disguise its appetite, and to seize the favorable moment for plunder. Supple, insinuating, and artful, it has learned the art of concealing its intentions till it can put them in force; whenever the opportunity occurs, it directly seizes upon whatever it finds, flies off with it, and remains at a distance till it thinks its offence is forgotten."

The aversion cats have to anything like slavery or imprisonment is so great, that by means of it they may be forced to prompt obedience; but, under restraint, they are very different; though surrounded by food, when deprived of liberty, they abandon the desire of theft or prey, and literally die

of languor and hunger. Lemery, after having put a cat into a cage, suffered two or three mice to run through it. Puss, instead of destroying them, only looked at them with apparent indifference. The mice became more bold, and even attempted to provoke her; however, it had no effect, as she still remained quiet. Liberty being given her, her strength and voracity returned; so that, had the cage been open, the mice would soon have become her prey. They also fear severe chastisement, and therefore this may be considered the best means of enforcing obedience. It is related that the monks of the Isle of Cyprus instructed cats to drive away serpents which infested the island; and they succeeded so well, that in a short time they were relieved of the venomous reptiles.

The effect that both sound and music have upon this animal is well known. They, like dogs, may be made to answer the call of a whistle. An invalid, who was confined to his room for some time, was much amused by this means, and with other proofs of the docility and sagacity of a favorite cat. Valmont de Bomare saw, at the fair of St. Germain, cats turned musicians, the performance being announced by the title of the "Mewing Concert." In the centre was an ape, beating time; and on either side were the cats placed, with music before them on the stalls. At the signal of the ape, they regulated their mewing to sad or lively strains. One of our celebrated naturalists assures us that they are capable of gratitude, and may be considered faithful.

After so many instances well known, why should so severe a sentence be passed upon these animals? It is said (without proof) that education has no effect upon their natural savageness; but I cannot imagine why this should be asserted, when we notice how quietly a cat will obey its mistress, and remain by her side most of the day, if required; will run when it is called, and appear unsettled and unhappy during the absence of its protectress; and how delighted when she returns, as it proves by its caresses, not acting from dissimulation or cunning. When cats have attained these social habits, they will retain them till their death; and thus brought up, they lose their inclination for mice and rats, and are devoted to those who are attached to them. From all that can be said, this conclusion may be drawn, that the more pains are bestowed upon educating them, the less they show of their natural wild state.—*Magazine of Natural History.*

TO MAKE KITCHEN VEGETABLES TENDER.—When peas, French beans, and similar productions, do not boil easily, it has usually been imputed to the coolness of the season, or to the rains. This popular notion is erroneous; the difficulty of boiling them soft arises from a superabundant quantity of gypsum imbibed during their growth. To correct this, throw a small quantity of sub-carbonate of soda into the pot along with the vegetables, the carbonic acid of which will seize upon the lime in the gypsum, and free the legumes, &c., from its influence.—*From the French.*

CRUST ON BOILERS, &c.—Potatoes and flour will prevent the incrustation of boilers and kettles.

Boys' Department.

RUMINATION, OR CHEWING THE CUD.

THE process of chewing the cud is always connected with a complicated stomach, excepting individual instances, as in man and the kangaroo, there being at least four distinct chambers, the structure of each of which is very different.

The first, which is similar to the crop or craw of birds, is termed the paunch, and serves by its heat and somewhat scanty moisture, to prepare the herbage for farther change. It is situated on the left side, and lined with a rough membrane studded with small flat projections. It is inferred to have a rotatory motion, from the round masses of hair, called bezoar stones, frequently found in it, arising from the union of hairs licked off, from time to time, by the animal when cleaning itself, and said, without proof, to be miraculously medicinal. In the chamois, the bezoar stones appear to consist of vegetable matter.

The second is termed the honeycomb bag, king's hood, or bonnet, is much smaller than the paunch, and is situated on the right of the lower end of the gullet, which opens in common into it and into the paunch. On the inside a number of shallow cells, like those of a honeycomb, are formed by a projecting membrane, and the whole is lined with a rough scarf skin continuous with that of the gullet and paunch.

The third is the smallest of the four, and is named the many-plies, because the inner surface rises up into a great many folds, one above the other, amounting to about forty in the sheep, and about one hundred in the ox, and covered with a rough scarf skin. Some of these folds project farther than others, there being first two long ones on each side, and within these, two shorter, and so on. The smallest of them, between the opening from the honeycomb bag, are puckered, so as to act as a valve between this third chamber and the fourth.

The fourth, which is exclusively the digestive stomach, according to Dr. Carus, is called the rennet bag, or red. Here, as in the simple stomachs of beasts of prey, we find no lining of scarf skin, which goes no farther than the many-plies; but a soft mucous membrane, which has the property of curdling milk, and that of the calf is used for this purpose in cheese-making.

It is important to observe, that, from the inlet of the paunch or first stomach, from the termination of the gullet, near the junction of the second and third stomachs, there runs to the third stomach a groove, which I shall call the cud-duct, with the first stomach on its left, and the second on its right. This cud-duct has thick prominent margins, which can be brought to meet so as to form a tube, and constitute a continuation of the gullet across the second into the third stomach. This duct was ascertained by M. Flourens to remain always open, even when the gullet inlet of the first stomach was closed.

When an ox or a sheep first swallows grass or other herbage, it passes chiefly into the paunch, but both partly, *immediately and successively*, into the

second stomach; but, in the instance of liquids, such as broth, a portion always passes into each of the four stomachs *immediately*; the only opening into the third stomach being very straight, and capable, also, of being quite closed, so as to prevent the passage of anything coarse. The reason why liquids pass into the third and fourth stomachs is, that unless the gullet-inlet into the first stomach is expanded by a morsel of solid food, the cud-duct is more open to receive the liquid, and, for the same reason, the cud-duct is prevented, by the expansion of the gullet-inlet, from admitting solid food.

In the process of common vomiting, the contents of the stomach are, by the action of the midribs and the muscles of the belly, ejected in a mass; but in chewing the cud, there is only a small rounded pellet brought up into the mouth, so that the process is in this very different from vomiting. Bourgelat denied the existence of the pellet, and Daubenton says it is formed by the second stomach. M. Flourens ascertained, beyond all question, that the pellet or cud (which is only a different way of spelling *quid*) is detached from the mass of aliment in the paunch, by the latter contracting and pressing the mass upwards towards the adjacent inlets of the paunch, the many-plies, and the cud-duct, which seize and detach from it a portion about an inch in diameter. The space, also, which these several adjacent inlets enclose, being round, and its walls in motion, the pellet is thereby rounded, and at length pushed up into the gullet, and returned to the mouth.

It is very remarkable, that, during the formation of the pellet, a very copious flow of spittle takes place from the mouth down the gullet, without which the pellet, which is rather dry at first, could not easily be brought up. The second stomach, also, has, by its contraction, the opposite open cells brought into contact, so as to form a series of shut cells; an admirable provision for preventing the fluids, always more or less present here, from being brought up along with the pellet.

The pellet, when returned to the mouth, is minutely chewed and reduced to a half fluid pulp, which, on being swallowed, is not solid enough to force open the always shut inlet of the paunch, and consequently enters the always open inlet of the cud-duct, and passes to the third stomach, from which it is forwarded to the fourth. The account of this process by Blumenbach, adopted by our British physiologists, is grossly erroneous.

In consequence of this complicated process, animals which chew the cud can digest more effectually than those which do not, such as the horse, it being common for the latter to pass corn quite undigested, a circumstance that rarely happens with horned cattle; and hence it is well known to graziers, that one-third less will be enough for an ox than for a horse or an ass. According, however, to the recent experiments of De Dombasle and Biot, this will depend, in the case, at least, of roots, such as carrots or potatoes, upon boiling, so as to break the globular crust enveloping the nutrient matter, which the stomach cannot well effect. This matter, formerly called *amidine* from its occurring in starch, has been termed by M. Biot *dextrine*.—*Professor Rennie*.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria, we are in receipt of our foreign journals up to September 4th.

MARKETS.—*Ashes* were in greater request. *Cotton* had advanced fully ½d. per lb., with large sales. The stock on hand at Liverpool on the 1st of September, was 744,000 bales, against 934,000 same time last year. *Beef* an advance of 6s. per tierce, with a light stock on hand. *Pork* had improved. *Lard*, the same. *Cheese*, quick of sale with a light stock on hand. *Butter*, little doing. *Flour*, an advance of 6d. per barrel. *Indian Corn* had risen 3s. per quarter. *Naval Stores*, a slight advance in Tar. This article was scarce in market. *Rice*, an advance. *Tallow*, brisk. *Tobacco*, a moderate demand. *Wool*, United States, little on hand, and no recent transactions to quote.

Money.—The Bank of England has reduced the rate of interest to 3 per cent. This has given an increased activity to business, and slightly advanced the price of stocks.

The Weather had been favorable for the completion of the harvest.

The Crops were gathered, and Wheat turns out an average yield; Oats, the same; the Potato crop, owing to the rot, a great failure. The crops on the Continent, especially in France, are rather short than otherwise, so that Great Britain will have to look to the United States for her chief supplies in Provisions. This will be a great boon to the American farmer the ensuing year.

To Exchange Papers.—We have one word to say to such of our contemporaries as are in the habit of copying our foreign summary, which is this: we shall expect them hereafter to give credit to this paper for it, as well as the Foreign Journals; for said Journals cost us no small sum per annum, and the condensations from them give us a great deal of extra labor. It is, therefore, no more than just that we should also have credit for the same.

Importation of Grain.—The quantity of wheat imported during the past year, has not been so great as in 1845, but that entered for home consumption is much greater—fully 2,000,000 quarters. The import of Indian corn is nearly six times greater this year than during the same period of 1845. Of wheat meal or flour there has been an enormous increase in the arrivals from foreign countries. A large quantity of Indian meal has also been imported this season, which forms no part of the returns in 1845; a small quantity appears to have been imported in 1844. Of the total quantity of grain taken into consumption during the period already stated in 1845, was 543,898, and in 1846, 2,301,949 quarters, and of flour and meal, 97,847 cwt. were taken for a like purpose; in 1846, the quantity had increased to 2,197,554 cwt.

The Scarcity of Apples and other fruits in England this year will, we expect, afford to the American cultivator of apples an opportunity of exporting that article to this country to some advantage.

Importations of Provisions into Great Britain.—This trade has already received an important impetus by the late measures of commercial reform. The import of bacon during the six months ending July 5, 1846, is nearly one hundred times greater than during the same period of 1845. Salted beef more than double; fresh beef 150 times greater; hams are also more than double; and in salted and fresh pork there is also a considerable increase, but not anything like the others. The importation of cheese has not increased during the last year; but, notwithstanding the competition of foreign countries, the value of English cheese has not merely been maintained, but considerably advanced. For example—in 1843 the quantity of foreign cheese imported was only 63,497 cwt. In that year, in the Wiltshire markets in August,

the price obtained by the large dairy farmer was 45s. the cwt. In the present year the quantity of foreign cheese imported has been 113,428 cwt., and the price obtained in the Wiltshire markets during the last month has been no less than 60s. the cwt. The total quantity of provisions, which includes bacon, beef salted and fresh, and pork, imported from January 5 to July 5, in 1845, was 70,311 cwt., and during the same period of 1846, 122,230 cwt.—*European Times*.

Nourishing Quality of different Vegetable Substances, reckoned from the amount of Nitrogen contained in them; by E. N. HORSFORD, of Albany, New York, U. S., (*Annal. der Chem. und Pharm.*, vol. lviii., p. 166.)—This is a very able research conducted in the laboratory of Prof. Liebig by the author, who appears to have devoted much time and care to the analyses. Besides simply estimating the amount of carbon, hydrogen, nitrogen, oxygen, sulphur, and ashes in the various vegetable substances that passed through his hands, the proportion of vegetable azotized substances contained in each one is also laid down; this is calculated from the amount of nitrogen and the known composition of these principles as made out by Müllder, Scheerer and others.

The following is the statement of the nutritive value of some of the substance alluded to in the extensive table accompanying the memoir. Wheat is taken as the standard, and the numbers in the table represent how many parts of the corresponding vegetable are equal to 100 of wheat.

	Theory.		Experiments on animals by Boussingault.
	Dried at 212°F.	Fresh.	Fresh.
Wheat.....	100.	100.	94
Rye.....	98.8	97.6	97.6
Corn.....	115.	113.	108
Rice.....	220.	225.	
Buckwheat	170.	166.	122.7
Peas.....	57.	60.	90.7
Lentil.....	55.	58.	
Potato.....	220.	596.3	429
Yellow Beet	182.7	919.4	5897

—*Silliman's Journal*.

Potatoes.—We must again draw the attention of our correspondents to the importance of not coming to hasty conclusions respecting this important matter. It is the worst kind of trifling to pretend that this, that, or the other little experiment has secured a crop, when we are only just at the beginning of the end. We must therefore decline to give insertion to a large number of representations which can have no value, and which their writers would regret to see on record hereafter. To imagine that planting shallow, or planting deep, earthing up or letting it alone, and fifty more such crotchets, can have any effect, is worse than absurd; it is mischievous, for it tends to mislead unreasoning minds.—*Gard. Chron.*

Potato Seed.—Seeds produced by healthy plants from which the tubers have been removed, and the flowers hybridized, is, perhaps, the best; but large ripe plums collected from the healthiest plants will answer equally well. They may be spread on a dry loft until they become shrivelled, and then mixed with twice their bulk of fine peat or sand, turning the whole over occasionally until the pulp becomes dry and mixed with the peat or sand, in which the seeds will keep good for four or five years. The plan of washing the seed out of the shrivelled plum, and thoroughly drying it, also answers perfectly; and, suspended in bags in a dry situation, it will keep good for a long time, more especially if the slime has not been too much rubbed off in the operation of washing. Care must be taken, however, to keep it from mice, as they are fond of it.—*Ibid.*

Importation of Seeds, Plants, &c.—The seeds saved in England, in the current year, are generally to be purchased in London in the months of November and December; consequently, these months are the best for making purchases for exportation.

If new seeds are not procurable (which is sometimes the case), the following brief notes of the period for which seeds retain, under proper care, their vegetative powers, may serve as a general guide:—

Cabbage tribe; four years.
Leguminous culinary vegetables, one year.
Beet; ten years. Turnip; four years.
Carrot and parsnip, one year. Radish, two years.
Scorzonera, two years. Onion tribe, two years.
Spinage, four years. Celery, ten years.
Lettuce, three years. Mustard, four years.
Tarragon, four years. Sorrel, seven years.
Parsley, six years. Dill and fennel, five years.
Chervil, six years. Hyssop, six years.
Sweet herbs in general; two years. Rhubarb; one year.

Cucumber, melon, and congeners; ten years.

The following instructions will tend to obviate disappointments in the transmission of seeds, trees, &c., if strictly attended to:—

Seeds—for exportation, must be new, perfectly ripened, and well dried, and cleared from all impurities, and to be packed in brown paper or canvass bags, and on board ship to be exposed to a current of air. If the quantity is so large as to require the outer package to be a cask or box, these should be perforated for the admission of air, but of a size to exclude vermin. Those boxes or casks are better for being kept on deck, exposed as little to the sun as possible; or if stowed below, it should be as convenient of access to them, as possible, in order to give them an occasional airing on deck. [Seeds have been successfully preserved through long voyages in glass bottles hermetically sealed. *Ed.*] In long voyages seeds should never be stowed in the hold.

Bulbs such as onions, or tubers, as in potatoes, should be carefully dried, and of rare or desirable species, each bulb or tuber should be wrapped up singly, in coarse brown paper, each species in packets by themselves, and placed in close wooden cases, carefully excluding air; these packages require less attention than those containing seeds, but they must not be placed deep in the hold of a ship, for fermentation will take place, and a total decay of the bulbs ensue.

Fruit Trees and other deciduous Trees, are fit for export on the fall of the leaf, when they are to be taken up, the longer roots shortened, and the heads shortened also, for the convenience of package, and the roots coated with a tenacious clay puddle, of the thickness of cream, and which must be allowed to dry on the roots; each tree should be numbered with a leaden tally, fixed securely to the stem with copper wire; the trees are then to be closely stowed in strong wooden cases, and made tight, to the total exclusion of air. Moss is sometimes used to fill up the spaces between the trees, but is not necessary. Maiden trees are the best for this mode of package, and of forest trees, those with stems one inch thick at least. Upon the arrival of the trees at their destination, after unpacking, their roots must be soaked in water for 24 hours, and after planting they will require shade and water to be applied conformable to the season. On a long passage the packages to be treated as those of the bulbs.

Evergreen Trees and Shrubs to be taken up on the immediate periodical maturity of the leaf, and which are, before packing as above, to be cut off from the stems with a sharp instrument; in evergreens, it is better, if possible, to select such as have no leaves on the lower and reserved part of the stem. The pine and fir tribe must be introduced by seed.

N. B. Seeds, bulbs, or plants, must be kept in separate packages, or the premature decay of either will destroy or seriously damage the whole. And the smaller the packages of seeds, the greater will be the certainty of success, as they can be placed in the cabins of ships with less inconvenience, and are more readily carried on deck for occasional airing.—*Southern African Almanac.*

Durability of the Wood of the Locust-tree.—The following notes relative to the duration of the locust wood (*Robinia pseud-acacia*), have been made by M. Pepin, Jardin du Roi, Paris:—A number of trees were felled that had been planted from 40 to 45 years; but not more than one in five of those wheelwrights who came to purchase appreciated sufficiently the locust, the others preferring elm. Ultimately the locust was sold to the person who knew its value, at one-third higher price than the elm. The purchaser found that spokes made of the wood in question lasted two sets of felloes, and were likely to answer for a third. Under equal circumstances of wear and tear, spokes made of locust wood were perfectly sound, whilst those of oak required to be replaced. M. Pepin further states that the ends of locust gate-posts which had been in the soil for upwards of 40 years were still not decayed. This sort of wood employed as feet, or supports, for chests made of oak, proved sound, although the oak planks in contact with them had been thrice renewed; but oak supports decayed simultaneously with the oak planks composing the chests. Vine props of locust wood are greatly esteemed.—*Gard. Chron.*

Plants Diseased in Jamaica.—There has been a disease among the cocoes for more than two years in this island; to the eye, the leaves and head appear sound, yet on breaking they prove rotten and unfit for planting; of which I hear the negroes complaining, as it forms a principal article of their general provisions. The yam season has not yet commenced, so little can be said of them; but complaints are made that the plantain-trees are beginning to show disease. The mangoes are failing generally in this district, which may partly be accounted for by the drought, as also the bad appearance of the bread-fruit. A gentleman lately pointed out to me several pimento-trees, which have become completely blighted, though I have not heard as yet of such being the case elsewhere. The potato-murrain has been truly designated mysterious, and if such unusual diseases appear in the vegetable kingdom throughout various parts of the globe, it may rationally create alarm that some malignant agency is abroad, probably through the intervention of the atmosphere.—*Ibid.*

Potatoes Sprouting Again.—There appears to be an excited and unnatural state of vegetation in the early growths of the potato this year, which before its arrival at maturity forces out its sprouts or buds, upon which fresh tubers are formed, and these in turn emit their embryo shoots, and exhibit the strange phenomenon of a young growing crop keeping pace with its parent stock, or, as I may say, three generations of tubers growing from the same stem. I have by me now a potato nearly full grown, to which are attached by strong shoots four lesser ones, the size of large green walnuts, and a very great number of young ones just formed, no larger than full-grown peas, but all in a most healthy condition, and it is curious to note that in one instance the bud of the parent tuber, before it had perfected its young stem, shot out (so to speak) upon the other side, and there formed a fresh stem or tuber, giving the appearance of two young potatoes hanging by a chain below each other from the parent one. I may add that where this singular feature exhibits itself, I can trace no symptoms of disease.—*Ibid.*

Editor's Table.

CULTIVATION OF FLAX; the Fattening of Cattle with Native Produce; Box-feeding; and Summer-grazing. By John Warnes, Esq. London: Clowes & Sons, Stamford Street. Pp. 321, 8vo. Through the politeness of Mr. Henry Coleman, we have received a copy of this able and well-written work, which, it is to be regretted, cannot be republished in this country entire. For the benefit of our readers, however, who are interested in the flax cause, we propose, hereafter, to publish in our columns, in a condensed form, a series of articles from this treatise, which we hope will receive an attentive perusal.

VESTIGES OF THE NATURAL HISTORY OF CREATION; with a Sequel by the same Author, and an Appendix containing an Article from the North British Review. New York: Wiley & Putnam, 161 Broadway. Pp. 496, 12mo. Price 75 cents. A general notice of this work having been given at page 70, vol. 4, of the *Agriculturist*, we are now only called upon to notice the fourth edition, greatly amended by the author, and the "Explanations." That a work, like the present, should have raised a vast number of admirers on one hand, and a host of antagonists on the other, is no more than could be expected. Indeed, that the author is open on all sides to criticism, is abundantly apparent to any one who will examine the work with reference to such points of detail as may be most familiar to himself. It is therefore surprising that the opponents of the peculiar opinions set forth in this remarkable volume, if they are not true, should not have been able to adduce a more powerful array of arguments, founded on facts, against this "nameless author." He contends that no specific creation has ever taken place; but that the Almighty has commanded matter to obey certain laws, which have been in operation from the beginning; that the effect of these self-acting laws has been the production by successive degrees of completeness of our globe and all that it contains; that they are still in operation as they always have been, and that they will continue to act to the end of time.

Admitting this theory to be correct, it would follow that new and more perfect species of plants and animals must have been successively appearing since life was first infused into matter by the will of the Creator; that races in like manner have disappeared, and have been succeeded by others (as geological evidence conclusively proves); that new species are still appearing on the face of the globe; and that, finally, man himself will disappear, to be succeeded by beings more perfect in their nature, and more nearly allied to angels. This, in the opinion of the author of the "Vestiges," is a more philosophical way of accounting for the appearance of new races of living things than to assume that every new form of plants and animals is produced by the special and direct intervention of the Almighty; and, he adds, "in a more reverential way." The weakest point, however, in this theory unfortunately consists in the absence of proof that new species are still appearing on the earth. The author ought to produce evidence of it, if the views he entertains are just, or his theory falls; for, the law of creation which he assumes to rule the universe *must be, and has been, ceaselessly in action from the beginning of time, and can know no pause!*

LECTURES TO YOUNG MEN, on Various Important Subjects. By Henry Ward Beecher, Indianapolis, Ia. Tenth Thousand, Salem, Ms. John P. Jewett & Co., and Saxton & Miles, 205 Broadway, New York. Pp. 251, 12mo. Price 62½ cts. This excellent little work is so widely circulated and generally known, that any

further encomium of ours would seem useless. All we can say, is, if there are any young men in our highly-favored country who have not read it, let not another week pass over their heads without being fully acquainted with its contents.

A CATALOGUE OF VALUABLE STANDARD WORKS, in the Several Departments of General Literature. New York, Harper and Brothers, 82 Cliff st. pp. 98, 12mo. This new Catalogue, having been constructed with a view to the especial use of persons desirous of forming or enriching their Literary Collections, as well as principals of District Schools and Seminaries of Learning, who may not possess any reliable means of forming a true estimate of any production, commends itself to all such by its novel feature of including bibliographical, explanatory, and critical notices. For want of such aid, a large portion of the reading community remain ignorant of the vast wealth of our accumulated literary stores, an acquaintance with which must ever be regarded as an essential element, both in the progress of social advancement and in individual refinement and happiness. It may be as well to add, that the valuable collection described in this Catalogue combines the two-fold advantages of great economy in price and neatness, often great elegance of typographical execution, in many instances the rates of publication being scarcely one-sixth of those of similar issues in Europe. Copies of this Catalogue may be obtained, free of expense, by application to the Publishers personally, or by letter, post-paid.

A NEW UNIVERSAL AND CRITICAL DICTIONARY, of the English Language, by Joseph E. Worcester. The Dictionary of Johnson as corrected and enlarged by Todd, and Walker's Critical Pronouncing Dictionary, have been made, in some degree, the basis of this work; but the words found in those dictionaries have been carefully revised, with regard to their orthography, pronunciation, definition, &c.; and a great part of them, especially such as relate to the arts and sciences, have been defined entirely anew. To the words found in Todd's Johnson, nearly 27,000 words have been added, and for these words authorities are given. The work contains a much improved edition of Walker's key to the pronunciation of Classical and Scripture Proper Names; and to Walker's Vocabulary about 3000 classical names have been added. It also comprises a pronouncing Vocabulary of about 4000 modern geographical names. The several vocabularies are computed to contain upwards of 106,000 words. Boston: Wilkins, Carter and Co. pp. 956, large 8vo. For sale by Saxton & Miles, 205 Broadway, New York. Price \$3 50.

Great attention has been bestowed on pronunciation; and with regard to words of various, doubtful, or disputed pronunciation, the authorities for the various modes are exhibited; so that this dictionary will show the reader in what manner these words are pronounced by all the most eminent English Orthoepists. The grammatical forms and inflections of words have been given more fully than ever before in any English Dictionary; and brief critical notes on the orthography, the pronunciation, the grammatical form and construction, and the peculiar, technical, local, provincial and American uses of words are scattered throughout the volume. The design has been to give the greatest quantity of useful matter in the most condensed form, and to specify, as far as practicable, authorities in doubtful and disputed cases.

A GENERAL INDEX TO THE FIRST SERIES OF XLIX. Volumes of Silliman's American Journal of Science and Arts, will be published at the earliest moment, consistent with its accurate preparation. Complete Sets of the First Series of this excellent Journal, fifty volumes, including the Index, will soon be offered for sale.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 23, 1846.

ASHES, Pots,.....per 100 lbs.	\$3 75	to	\$3 81
Pearls,.....do.	4 06	"	4 12
BALE ROPE,.....lb.	5	"	7
BARK, Quercitron,.....ton.	26 00	"	26 50
BEANS, White,.....bush.	1 12	"	1 25
BEESWAX, Am. Yellow,.....lb.	26	"	30
BOLT ROPE,.....do.	12	"	13
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	25
Shipping,.....do.	9	"	13
CANDLES, Mould, Tallow,.....do.	9	"	11
Sperm,.....do.	25	"	38
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	7	"	12
COTTON BAGGING, Amer. hemp,....yard,	13	"	14
Kentucky,.....do.	11	"	12
FEATHERS,.....lb.	25	"	34
FLAX, American,.....do.	7	"	8
FLOUR, Northern and Western,.....bbl.	4 75	"	5 00
Fancy,.....do.	5 00	"	6 00
Southern,.....do.	4 69	"	4 88
Richmond City Mills,.....do.	6 00	"	6 25
Rye,.....do.	3 50	"	3 75
GRAIN—Wheat, Western,.....bush.	1 00	"	1 05
Southern,.....do.	90	"	1 00
Rye,.....do.	75	"	80
Corn, Northern,.....do.	73	"	75
Southern,.....do.	71	"	72
Barley,.....do.	55	"	56
Oats, Northern,.....do.	34	"	35
Southern,.....do.	30	"	33
GUANO,.....do.	2 00	"	3 00
HAY, in bales,.....100 lbs.	35	"	45
HEMP, Russia, clean,.....ton.	200 00	"	210 00
American, water-rotted,.....do.	105 00	"	185 00
American, dew-rotted,.....do.	75 00	"	125 00
HIDES, Dry Southern,.....do.	7	"	8
HOPS,.....lb.	12	"	18
HORNS,.....100.	1 00	"	7 00
LEAD, pig,.....do.	3 88	"	4 00
Sheet and bar,.....lb.	4	"	5
MEAL, Corn,.....bbl.	3 50	"	3 75
Corn,.....hhd.	14 75	"	15 50
MOLASSES, New Orleans,.....gal.	28	"	32
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 00	"	2 25
Pitch,.....do.	1 00	"	1 06
Rosin,.....do.	55	"	65
Turpentine,.....do.	2 75	"	3 00
Spirits Turpentine, Southern,....gal.	38	"	40
OIL, Linseed, American,.....do.	60	"	63
Castor,.....do.	55	"	70
Lard,.....do.	58	"	60
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	1 25	"	1 59
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	6 25	"	9 00
Prime,.....do.	4 25	"	5 50
Smoked,.....lb.	6	"	9
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	9 50	"	12 00
Prime,.....do.	7 68	"	9 00
Lard,.....lb.	5½	"	7
Bacon sides, Smoked,.....do.	3	"	4
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	6	"	10
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	5	"	6
Pickled,.....do.	4½	"	5
RICE,.....100 lbs.	3 00	"	4 00
SALT,.....sack,	1 28	"	1 38
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	9
Timothy,.....7 bush.	11 00	"	20 00
Flax, clean,.....do.	10 00	"	11 00
rough,.....do.	8 50	"	9 00
SODA, Ash, cont'g 80 per cent. soda,... lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	6	"	8
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	6½	"	7½
TOBACCO,.....do.	2	"	7
WHISKEY, American,.....gal.	25	"	26
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	30
Half blood,.....do.	20	"	25
Common do,.....do.	18	"	20

REMARKS.—Our readers will see that considerable advances have been made the past month in the prices of Cotton, Flour, and Grain of all kinds, also in Provisions, Naval Stores, and some other articles. Corn has risen fully 20 cents per bushel, thus realizing more than we anticipated when we wrote the article early this month, "Prices of Produce," page 301 of this No. Hay is the only article which has fallen. In consequence of the great destruction of the potato crop in Europe, and rather a short grain crop on some parts of the Continent being ascertained now, beyond a doubt, Great Britain will require large supplies from this country the coming year; prices, therefore, are likely to continue as now quoted, during the season; but we must warn the farmer against anticipations of a much greater advance. Our advice is to sell now rather than hold on. Wool is being exported in considerable quantities to England—no prospect of a rise in price, however.

Money is abundant from 5 to 7 per cent.

The Weather has been generally dry and fine the past month in this vicinity. If equally so at the South, it will prove highly advantageous to the crops there. Cotton is turning out fairly in the Carolinas and Georgia; in many districts of the other States, it has suffered dreadfully from the wet season, and the army and boll-worm. It will be decidedly a short crop this year, and prices must consequently advance somewhat more. Of the other Southern crops we hear fair accounts. The potato rot at the North and West has been more destructive this year than it was last, which has considerably enhanced its price among us. Corn comes in very abundantly, and was never a better crop.

TO CORRESPONDENTS.—Communications have been received from M. W. Phillips, L. T. Talbot, Reviewer, and E. E. M.

ACKNOWLEDGMENTS.—List of Premiums of the Exhibition and Fair of the Hartford County Agricultural Society, to be held at Hartford, Ct., during the ten days preceding the 3d of the present month; also the American Journal of Science and Arts for September, edited by Professors Silliman.



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